

A M A T E U R R A D I O

APRIL 1962



Vol. 30, No. 4



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should be large and done in Indian ink.

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taken on 7050 Kc. VHF 1930 hours EST
on 50.16 Mc. and 145.13 Mc.; call-backs
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taneously on 3573 and 7146 Kc., 50.16
and 145.25 Mc. Intrastate hook-ups taken
on 7135 Kc.
VK4WI: Sundays, 0900 hours EST, simul-
taneously on 7146 Kc. and 14.342 Mc.
Intrastate hook-ups taken on 7105 Kc.
VK5WI: Sundays, 0900 SAT, on 7146 Kc.
Relays on 3.7, 14.2, 50.02, 144 and 285
Mc. Intrastate hook-ups taken on 7125
Kc.
VK6WI: Sundays at 0930 hours WAST, on
7146 Kc. Intrastate hook-ups taken on
7085 Kc.
VK7WI: Sundays at 1000 hours EST, on 7146
Kc. and 3672 Kc. Intrastate hook-ups
taken on 7115 Kc.

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OUR COVER

The highest radio station in Aus-
tralia was situated on Mt. Kosciuszko.
The "Command" equipment was
operated by VK2ZXY and VK2ZPJ
who contacted fourteen stations.

COMMENT

★

FEDERAL CONVENTION

The Federal Convention—the first for three years—will be held over the
Easter holiday period when some fifty odd agenda items plus general business
items will be discussed. It is being held in Perth in the same year as the
British Empire Games.

The discussions at a Convention affect every Amateur in Australia and
it becomes mandatory that you, the Amateur, know what is being discussed
and why. For economical reasons the agenda will not be published in
"Amateur Radio", but a précis of the determinations will appear some time
after the conclusion of the Convention. In the meantime, if you are interested
in affairs which might well govern your interest in our world wide hobby,
then contact the Federal Councillor of the Wireless Institute of Australia in
your State and ask to peruse a copy of the agenda. Then, if there is something
on which you would like a say, you record your remarks with him and he
will submit them to the Council of the Division. The Council will then
determine whether your ideas in part or in whole will be included in the
delegate's brief to the Convention. Alternatively, you have had the opportunity
over the past several months to discuss part of the agenda with representatives
of your State's Divisional Council at the monthly meeting of the Division.

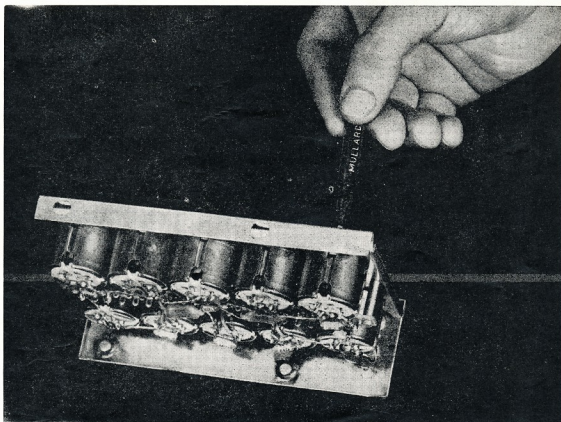
At the risk of reiteration it is said again—in fact can never be said too
forcefully—that Amateurs all over the world should take more interest in the
Societies and Institutions which represent them in order that their place in
the spectrum can be preserved for them, and the facilities for the conduct
of their unique hobby maintained.

Conventions are one way of doing this and you will find these organised
in every country in the world where Amateur transmitters are permitted. It
is because a hard working proportion of licensed Amateurs give of their time,
sometimes against steep opposition and ill-informed critics outside the field
of our activities, that you enjoy Amateur Radio. Take an interest in the
affairs which govern your hobby and you assist those who dedicate their time
to your problems.

FEDERAL EXECUTIVE, W.I.A.

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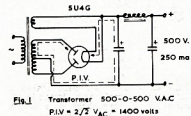
MT121

SILICON DIODES *for the* RADIO AMATEUR

A. H. S. BRIDGMAN,* VK2AHO

SILICON diodes for power rectifier purposes are now on the market and are already being used in television receivers and other commercial electronic equipment. Amateurs already committed to 866As and 5U4Gs are not likely to throw these excellent tubes away. However, for those starting from scratch, and also for those who enjoy pursuing the art of building more efficient, more compact, more reliable equipment, silicon diodes are well worth considering. In order to apply these diodes in the most economic way, a sound understanding of the fundamental principles of power supplies is essential. So let us start with a short "refresher course".

To avoid confusion it is best to adopt one system of rectifier ratings in preference to all others. We are used to saying that a 5U4G is a full-wave rectifier good for 500 volts d.c. at 250 mA. d.c. These figures only apply to the standard full-wave circuit such as that of Fig. 1, in which a transformer giving 500 volts r.m.s. each side of the centre tap is employed. The voltage drop across the rectifier, in the transformer windings, and in the smoothing choke, usually ensures that the full-load output voltage is about 500 volts d.c., although the peak (no-load) voltage will be close to the theoretical maximum of $500 \times \sqrt{2} = 700$ volts approximately.

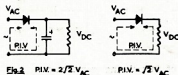


The voltage which determines the rating of each diode in the circuit, however, is the Peak Inverse Voltage (p.i.v.). This is the maximum reverse voltage which the diode is called upon to resist. In the circuit of Fig. 1, the p.i.v. is equal to the d.c. voltage across C1 plus the peak a.c. voltage acting in series with it across one diode. The worst condition is no-load, when the p.i.v. at the diode is $700 + 700 = 1400$ volts. This then, must be the true rating of the rectifier. If you don't believe it, look up the p.i.v. rating for a 5U4G in your valve tables!

Another point is that the reservoir capacitor C1 is charged on alternate half-cycles by alternate diodes. Each diode, therefore, passes 250 mA. (r.m.s.)

only for half the time. Its continuous rating is only 125 mA. d.c. output.

It is important to understand these "true" ratings for rectifiers because that is the way manufacturers express the ratings of their silicon diodes. Confusion may result if you don't stick to these two fundamentals, the p.i.v. and the d.c. output current.



Some manufacturers quote, in addition to p.i.v., the maximum permissible r.m.s. input voltage for a given rectifier. This immediately means that they have to give two figures, one for use with an input capacitor and one for use with a resistive load. As you can see from Fig. 2, the permissible r.m.s. input voltage for the second case is twice that for the first, because there is no steady d.c. voltage acting in series with the applied a.c. voltage on reverse half-cycles. Incidentally, the maximum d.c. output current may be different for the two cases, due to the different current wave-form in the diode.

So now we have silicon diodes. Those currently available at low prices are high-current, low-voltage types, ranging from 400 p.i.v. at 500 mA. d.c. to 800 p.i.v. at 500 mA. d.c. The problem is how to use them in an economic manner. The first impulse is to put them in series, of course. To replace a 5U4G with Philips OA214s (rated at 400 p.i.v. at 500 mA. d.c.) we would need four in series in each half of the full-wave circuit of Fig. 1, making a total of eight. The maximum d.c. output would then be $2 \times 500 \text{ mA.} = 1 \text{ ampere}$; unless you particularly want this current, and can back it up with a suitable transformer, the design is uneconomic, at present.

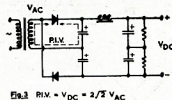
The answer is to use a voltage doubler circuit, as in Fig. 3. When used in conjunction with high value capacitors (which are also available now) the full-load output d.c. voltage is almost equal to the peak of the a.c. input voltage; in other words the regulation is extremely good. To obtain 500 volts d.c. from the circuit of Fig. 3 we are only concerned with 500 volts p.i.v. at each diode, since the d.c. voltage across each capacitor is only 250. The peak a.c. input voltage to each diode is only 250 which means that the r.m.s. voltage of the transformer secondary should theoretically be 180 volts. To allow for voltage drops this should in practice

be raised to about 200 volts. A good rule is:—

$$\text{D.c. output voltage (full-load)} = 2.5 \times \text{r.m.s. input voltage.}$$

With this arrangement we would only need four diodes type OA214, or only two type OA214, to give us 500 volts at 500 mA. Recommended values for the capacitors are 100 $\mu\text{F.}$ at 350 volts d.c. working. The cost of this power supply is well below that of the equivalent 5U4G circuit; and furthermore, it is smaller, lighter, less dangerous, more reliable, has practically infinite life expectancy, and runs at a fraction of the heat loss.

The advantages don't stop here, they only start! Owing to the large value capacitances, the a.c. ripple in the output is very low. In power supplies for p.a. and modulator stages, the inductance of the modulation transformer gives us free smoothing and the choke in Fig. 3 may be omitted. A choke is only needed in the supply line to the low-level stages, and this of course can be smaller. Omission of the big feller leads to even better voltage regulation, of course.



The next step is the omission of the mains transformer altogether.* With this arrangement, using two OA214s, we can get 600 volts d.c. at 500 mA. from 240 volt a.c. mains. The application of a circuit of this type should be limited to power supplies for p.a. and modulator stages, all other sections following normal practice. In this way the number of components connected "directly" to the mains (via the diodes) is reduced to the minimum. The chassis must be earthed in the usual way, and the cathodes taken to a separate negative h.t. line.

Provided that all the normal precautions are taken this arrangement is no more dangerous than the conventional set-up. In fact, it is safer, because the maximum voltage to earth anywhere in the transmitter is only 300, against 600 volts in a conventional arrangement.

* This is not recommended for Amateur practice. In all instances an isolating transformer should be used on mains input. The circuit is included for interest only.—Editor.

* Flat 1, 26 Spruson St., Neutral Bay, N.S.W.

- by-pass capacitor C2, must be mica types of 2,500 volts d.c. rating, or 5,000 volts d.c. "test".
3. If possible use a link coupling to the antenna rather than a direct connection, thereby completing the isolation of the mains. Otherwise the capacitor C3 should not exceed 0.001 μ F.
4. A double-pole mains switch and double-pole fuses are recommended. With this arrangement it is immaterial which mains connection is "active" and which is "neutral".
5. The mains interference suppressors C6 and C7 must not be omitted because the silicon diode power supply takes almost a square-wave of current from the mains, in other words "hash" may be radiated from the mains wiring unless suppressed.
6. Resistor R limits the surge-current in the OA214s auto switch-on and should be at least 7 ohms, 14 watts. Follow the maker's recommendations.

The writer is at present developing a table-top transmitter along these lines and hopes to feature it in a future article. ●

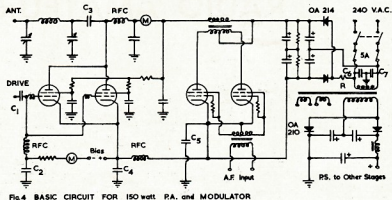


FIG. 4 BASIC CIRCUIT FOR 150 watt P.A. and MODULATOR

See Editor's comment in text re use of an isolating transformer.

ANTENNA CONSTRUCTION HINTS

DIETMAR KIESEWETTER,* VK2APK

When building a Quad, the writer found the best way of connecting the rangoon canes (bamboos) to the boom was by three pieces of angle iron as shown in Fig. 1. The cross pieces of

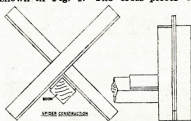


FIGURE 1.

1½" x 1½" angle iron, 20" long, were welded together back to back; the third angle iron 1½" x 1½", 8' long, being welded underneath and sits on the boom. It is held by two clamps, each made of two steel angle brackets, the ends so bent that they can be screwed together. The bamboos were kept in position with the same type of brackets (Fig. 2).

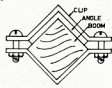


FIG. 2.

Before use, all iron parts should be painted with a zinc chromate metal primer. The centre of the boom rests in an angle iron bracket which is welded on the top of a water pipe socket the size of the supporting pipe (Fig. 3). Again the position of the boom is as-

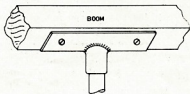


FIG. 3.

sured by two clamps as described before (Fig. 2) and some wood or machine screws. (For the writer's Quad the boom is made of 2" x 2" Pacific maple, 9 feet long.)

For a 6 metre four element beam, the 12 feet long boom is of dural, $1\frac{1}{2}$ " square by $\frac{1}{4}$ " wall. The elements are held by home-made all-aluminium fittings, as shown in Fig. 4.

The Omega matching box ($4\frac{1}{2}'' \times 2\frac{1}{2}'' \times 2\frac{1}{2}''$) fits just underneath the driven element. Both tuning condensers and the co-ax connector are on the bottom side, to make protection against weather easier. The Omega rod ($\frac{3}{8}''$ diameter) is spaced 12" centre to centre from the element, is drilled, tapped and screwed on the feed-through insulator on one side of the matching box.

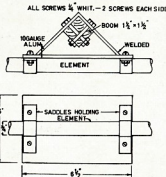


FIG. 4.

This antenna construction makes it possible to assemble and dismantle the antenna in a very short time and to carry it on the top of a car, therefore it is ideal for propagation tests and field days. ●

WORLD CALL SIGNS

The Federal Treasurer has, as usual, back numbers of "Call Book Magazine" for sale at £1 post paid, which is about one-third new price. These have been used by W.I.A. Federal Officers and are in near-new condition.

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THE BEST BAND FOR V.H.F.

P. EDWARDS,* B.Sc.(Hons.), VK7ZAJ

A GLANCE at the title of this article will probably be sufficient to raise the ire of many a v.h.f. man. Every Amateur has his favourite frequency band and most can find some argument to justify their choice.

Strictly speaking of course there is no best band for all purposes. So many factors are involved that it is in general impossible to make a choice of the optimum frequency. If we agree on a few basic matters however, the choice is quite easy. I shall attempt to show how to deduce the optimum frequency for a v.h.f. link operating to the optical horizon. I shall then give an answer to the following question:

What choice of frequency minimises the power output required by stations operating over a near-horizon path?

For (a) A "smooth" earth.

- (b) An undisturbed atmosphere (no ducts, etc.).
- (c) No ionospheric propagation.
- (d) No man-made noise, the total noise being the sum of receiver and sky noise.
- (e) Frequencies between the 50 Mc. band and the 1,215 Mc. band.

Before explaining these assumptions I shall unashamedly admit that they are simplifications of real conditions. In practice things may often be quite different. However, by first restricting the problem it becomes easier to draw more general conclusions.

PROPAGATION OVER THE EARTH'S SURFACE

The earth's surface acts as a reflector at v.h.f. and the reflected signal may partly cancel the direct signal. As a result signals exchanged by earth-bound Amateurs (this includes you) are generally weaker than they would be in space. In addition if the signal travels in the vicinity of the optical horizon, the bulge of the curved earth will obscure the view that either antenna has of the other. The result of all this makes the path loss not only greater than in free space but dependent on frequency and distance in a different way.

Neglecting the effect of distance for the moment, doubling the wave length will raise the signal transmitted between two dipole antennae in free space by one S point. If two stations are well within line of sight, however, the earth may be considered flat. In this case change of frequency has no effect on path loss at all, providing the frequency is less than about 10,000 Mc. Above this frequency atmospheric absorption sets in.

The signal from a station at the optical horizon will depend on frequency because of the earth's curvature, in fact it will drop by 4 db. (2.5X) every time the frequency is doubled. In

★ The writer puts forward in a concise manner the effects of all factors governing the choice of a v.h.f. band. It is of particular interest in relation to satellite communication, and also has application in every-day ragchewing.

general then the presence of the earth's surface makes the strength of a signal less dependant on frequency than in free space.

It will be seen later that the choice of optimum frequency does not depend critically on the path loss. Restrictions on antenna size are much more important and will be discussed in the next section. So far dipole antennae on a smooth earth have been assumed. Since most propagation paths lie over rough terrain the ground does not act as a mirror reflector. Over a rough earth the strength of the reflected wave is therefore reduced and results in net increase in signal strength above that expected for a path over the sea. Exact calculation of terrain effects is too difficult to carry out so we assume that the earth is smooth, bearing in mind the fact that what may appear to be a smooth earth to a 50 Mc. signal may in fact be "rough" at 576 Mc. Other things being equal this would mean a stronger signal at the higher frequencies.

ANTENNA LIMITATIONS

In order to make a comparison between signal strengths at different frequencies it is necessary to specify the antennae to be used. The preceding discussion involved dipole antennae. A more realistic approach is to assume that the physical size of the antennae is fixed. Landlords, city councils, XYLs and car roofs being what they are, it is probably fair to limit the antenna in this way.

Now the power gain of an antenna of fixed dimensions (capture area) increases as the square of the frequency. That is, you gain one S point simply by changing from, say, 2 metres to 1 metre if you possess antennae for these bands of equal capture area. Suppose two stations were to conduct an experiment in which they exchanged signal reports on these two (or any other) bands. If both operators had built a set of antennae of area independent of frequency, then neglecting other considerations they would expect a rise of two S points (one S point at each end of the link) for every doubling of frequency. For example, in going from 50 to 576 Mc. the signal would increase from, say, S2 to S9 for the same radiated power. Although these figures apply only over a flat earth in the absence of noise, they indicate the importance of the antenna in determining the link performance at different frequencies.

NOISE

In any communication system the presence of noise sets a lower limit on the readability of a signal. If the noise is impulsive (e.g. ignition) it may be possible to discriminate against it. The amount of man-made noise of this type obviously varies markedly from place to place and is therefore difficult to take into account. We shall assume that either man-made noise is absent or that it is possible to remove it by suitable techniques. At v.h.f. two sources of noise remain—the sky and the receiver.

SKY NOISE

The galaxy, of which our solar system is a member, is a source of radio noise of extremely high intensity. The radio temperature of the sky depends both on frequency and direction. The most intense region coincides with the Milky Way and has a temperature exceeding 30,000° Kelvin at 50 Mc. This means that if a 50 Mc. antenna points at this region the amount of noise received will exceed that from a resistor (of the value of the antenna impedance) at this temperature. Now a good 50 Mc. receiver may have a noise figure of 3 db. The noise internally generated in this set is equivalent to the noise from the input resistor heated to a mere 300°. In other words the noise pick up is over 100 times that generated in the receiver. The effective noise figure in this case would therefore be more than 100 times (20 db.). The futility of trying to improve a hook up by reducing the receiver noise figure under these conditions is clear. Fortunately the Milky Way will not always get in the way of the signal. Also by going to a higher band the amount of sky noise may me cut to a very low figure.

RECEIVER NOISE

Above 400 Mc. the highest sky temperature will be less than that of the earth (300 degrees). In this part of the frequency spectrum receiver noise becomes the limiting factor. Since we are concerned with equipment readily available to the v.h.f. Amateur we shall not consider masers or parametric amplifiers in this discussion. Instead, we shall take as the sole contributor to receiver noise an ideal 6AK5 pentode working under optimum conditions. This noise figure is given in Table 1 for the various Amateur bands. As will be seen these figures can easily be obtained (and in some cases bettered) in practice.

Values of the maximum and minimum effective noise factors (taking sky noise into account) are also given. If the Milky Way passes across the antenna beam during the day the maximum values will be reduced somewhat at the lower frequencies because of absorption in the D layer of the ionosphere.

When comparing the values at different frequencies it should be borne

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OPTIMUM FREQUENCY

To summarise briefly, we are attempting to find the frequency at which the various frequency-dependent factors combine to reduce the required radiated

u.h.f. This is, of course, a result of the high antenna gains obtainable. Comparing the 60 and 1,215 Mc. bands it can be seen that $\frac{1}{4}$ milliwatt of radiated power at 1,215 Mc. will do the job of one watt at 60 Mc. There is one drawback, however—beam width. A 1,215 Mc. antenna of the same area as a 5 metre antenna with 10 db. gain would have a gain of 36 db. but a beam width of only a couple of degrees.

of the actual power required for various paths may also be worthwhile, but deserves a story of its own.

One of the interesting conclusions is the advantage of u.h.f. when antennae of the same size as those on the lower bands are used. With modern tubes the drop in transmitter efficiency at u.h.f. will be completely swamped by the increase in antenna gain.

If minimum input power is the criterion for the optimum frequency, the tables and graphs must be modified. In general the advantage of the higher frequencies will be reduced and the optimum frequencies will be slightly lowered.

Table 1. Effective Noise Figures.

| Frequency (Mc.) | 50 | 60 | 144 | 288 | 576 | 1215 |
|---------------------|------|----|------|-----|-----|------|
| En.f. (max.) | 21 | 19 | 10.5 | 7.5 | 8.5 | 11 |
| En.f. (min.) | 11.5 | 10 | 5 | 6 | 8.5 | 11 |
| Receiver n.f. (db.) | 2 | 2 | 4 | 6 | 8.5 | 11 |

Table 2. Relative Power for dipole to dipole horizon link.

| | | | | | | |
|-----------------|------|----|------|------|------|----|
| Relative Power: | | | | | | |
| Max. (db.) | 21 | 20 | 16.5 | 17.5 | 22.5 | 29 |
| Min. (db.) | 11.5 | 11 | 11 | 16 | 22.5 | 29 |

Table 3. Relative Power for dipole to fixed aperture horizon link.

| | | | | | | |
|-----------------|------|------|------|-----|-----|---|
| Relative Power: | | | | | | |
| Max. (db.) | 23.5 | 20.5 | 10.5 | 5.5 | 4.5 | 5 |
| Min. (db.) | 14 | 11.5 | 5 | 4 | 4.5 | 5 |

Table 4. Relative Power for fixed aperture horizon link.

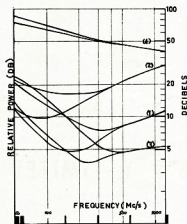
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|-----------------|------|------|------|------|------|----|
| Relative Power: | | | | | | |
| Max. (db.) | 61.5 | 56.5 | 40.5 | 29.5 | 22.5 | 17 |
| Min. (db.) | 52.0 | 47 | 35 | 28 | 22.5 | 17 |

power to a minimum for a given path. The path we are considering is one close to the optical horizon. When these factors are mathematically examined it is found that the type of propagation path does not have a marked influence. The limitation on the antenna size, the external noise level and the receiver n.f. are the three important variables. Neglecting the first factor for a moment we have seen that since sky noise predominates at the low frequency end and receiver noise at the high frequency end, the sum of these is smallest at intermediate frequencies. If the antenna effect and the path loss to the horizon are fed into the calculation it is clear from the preceding discussion that the optimum frequency will be raised above that for which the n.f. is least.

Referring again to Table 1, the band for which the e.n.f. is lowest is the 2 metre band for minimum sky noise and the 1 metre band for maximum sky noise. These would be the optimum bands for dipoles well within line of sight. For dipoles at the optical horizon the situation is somewhat similar. Table 2 shows relative power (again in db.) for this case. The superiority of the 2 metre band is clear.

Now take a look at the graphs. Curve 1 shows the e.n.f. Curve 2 represents the figures in Table 2. Table 3 and Curve 3 show the situation where one station uses antennae of constant size while the other uses a half wave dipole for each band. Curve 3 would also apply if both stations used Yagis of constant length. The higher bands begin to come into their own! Table 4 and Curve 4 apply when both stations use constant aperture antennae. Here there is no doubt about the superiority of

Note that each of the four curves has two branches. The upper branch is drawn for maximum sky noise, the lower branch for minimum sky noise. The figures for the two branches of any one curve are directly comparable and they are given in the Tables. The vertical scale of the graphs is given in db. and it is compressed towards the top. The position of the curves on the graph is quite arbitrary. The figures have



simply been adjusted so that the curves do not pile up on each other. The scale figures are correct for Curve 1 and allow the e.n.f. to be read off directly in db. for any frequency.

In order to keep the article brief I have omitted mention of the relation between distance and power. Discussion

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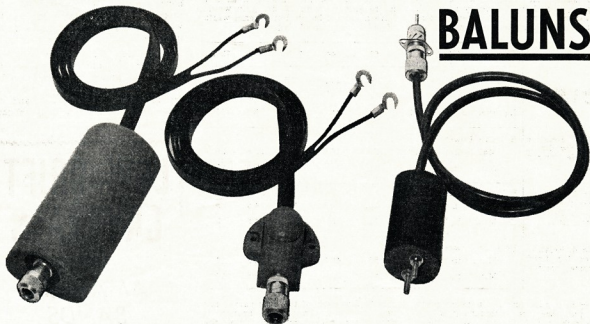
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TRANSISTOR RADIOS*

DESIGN CRITERIA

For a specific receiver, the minimum battery voltage considered by the circuit designer is largely dependent upon the circuit configuration adopted in the audio output stage. (The various circuits will be described in future issues.) For the conventional transformer, coupled push-pull stage and the single-ended or transformerless output stage, the design criteria is that all stages of the receiver shall continue to operate normally when the supply potential has fallen to the minimum designed value—some two-thirds of its normal value.

To a first approximation the load on the battery constituted by the receiver may be considered as a fixed resistance. Consequently, when the supply potential falls to two-thirds of its nominal value the current consumption of the receiver will also fall to two-thirds of the nominal figure. The power consumption at this "end of life" point is therefore $(2/3)^2$, i.e. 44% of its original value. Since the a.f. output stage has the largest power consumption of any section of the receiver, it becomes clear that the circuit designer contends that the end user will replace the battery before the a.f. output power of the receiver has fallen to half its rated value and the increase in distortion with class B operation that this drop in supply potential entails.

Normally, the listener will request battery replacement before the arbitrary "end of life" point is reached because of inadequate volume, excessive distortion or both. Under extreme conditions, the local oscillator may cease to function over the entire tuning range, and obscure faults may appear to be present.

The fall in battery potential results in a smaller increase in distortion with the "split load" type of output stage (to be described in a future issue).

END OF LIFE

The variation of terminal voltage with life, of the type of cell normally used in radio receivers, exhibits, after the initial "jump," a gentle decline for most of the working life, falling rapidly at the end of life. It is wise, therefore, to discard and replace any battery delivering as low as three-quarters of its nominal value on load, as in a comparatively short time it will have reached the end of life point manifesting in the receiver the effects previously discussed.

In contrast, the mercury cell maintains closely its rated terminal voltage throughout life; however, the higher cost factor does not normally permit its use in transistorised receivers.

MEASUREMENT UNDER LOAD

Battery voltage measurements must always be carried out under load conditions, i.e. with the receiver tuned in to a local station and with the volume turned up to a reasonably high level for the type of receiver concerned. Of course, where battery replacement fails to ensure satisfactory operation, nor-

● This article is another of the series on transistor portable receivers and cordless radios. In this issue particular attention is given to problems associated with battery replacements and to the basic techniques of printed wiring.

mal fault-finding technique (to be described in later issues) must be applied.

POLARITY OF SUPPLY

Where energisers are used the connections are made with flying leads having non-reversible contacts. With single cell supplies, the spring contacts are usually arranged so that contact will not be made unless the cell is correctly inserted.

Although reversing the polarity of the power supply may not destroy transistors of the alloy junction type, it could well result in a deterioration of performance.

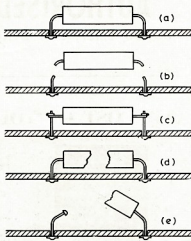


Fig. 1.

PRINTED WIRING

Techniques now being encountered by service engineers include printed wiring, a term used to describe electrical circuits which take the form of thin copper strips on insulating board.

Since the techniques necessary in servicing printed wiring are somewhat different from those used in conventional circuitry, it is desirable for service personnel to acquire a thorough knowledge of the subject. There are a number of manufacturing processes including photocopy and offset printing and the following brief description of the most commonly used manufacturing process may help readers to become familiar with the technique.

SILK SCREEN PRINTING

The circuit diagram is first rearranged so as to form a convenient flat layout which is photographed and

transferred to a silk screen. An acid resist paint is then squeezed through the screen to the copper surface, the painted areas representing the conducting surface required.

The board is then transferred to an acid etch bath where the unwanted copper is removed. After etching, the acid resist is removed and the board thoroughly cleaned. It is then provided with a protective layer of flux so that it may be stored without tarnishing. The board is now ready for component insertion through pre-punched holes.

IMPORTANCE OF PRINTED WIRING

Once a correct layout is achieved in printed wiring, all further models are identical. The complete item is compact, lightweight and reliable. Components are easily added by automatic methods and high production rates are possible.

TYPES OF PRINTED WIRING

Individual manufacturers use different techniques of printing, but the boards will all have much the same appearance. In some processes, the circuit is not etched but punched out of foil and attached to the board. This method is slightly more expensive than the more usual etching process. In others, the bituminous coating is not applied, the ink resist being sufficient for most requirements. Sometimes the wiring printed on to both sides of the board.

Where the printing technique includes printed inductors, capacitors and resistors, the name "printed circuit" is more correctly used.

CARE OF BOARDS

The preceding information should assist in appreciating the precautions which are necessary when servicing printed circuits.

The "wiring" produced on the laminate boards is extremely thin—about 0.0015" to 0.003"—and is bonded to the board. Flexing the board will result in the foil being stretched and the strain may fracture the copper, thus forming hairline cracks in the conductor.

When connections are made to the foil, great care must be taken to prevent excessive heat from melting the adhesive and damaging components. A 25w. soldering iron will be quite sufficient to effect repairs and, if applied only long enough to melt the solder, should not damage the circuitry.

Acid fluxes should not be used on printed wiring; however, the more common cored solders do not contain this type of flux.

CIRCUIT TRACING

Due to the single-plane layout used in printed wiring, circuit tracing is somewhat simplified. The components are not normally on the same side of the board as the wiring, however the problem of locating components when fault-finding may be obviated by placing the board in front of a bright lamp.

(Continued on Page 13)

* Reprinted from "Mullard Outlook," March-April and May-June, 1961.

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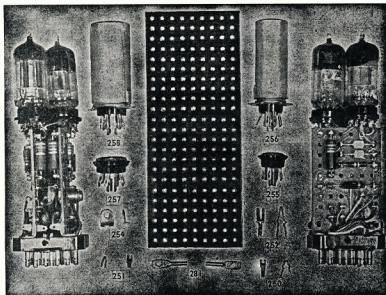
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Noise Factor of Some V.H.F. and U.H.F. Glass-Base Valves*

G. R. JESSOP, A.M.Brit.I.R.E., Assoc.I.E.E. (G6JP)

DURING the past few years Amateurs and professional Radio Engineers have spent a great deal of time and effort in searching for ways and means to improve the input stages of converters and receivers for the 2m and 70cm bands. Each new valve type that has been released has been given a very thorough testing in one way or another and the results have been reported from time to time, often with outstanding noise performance claims. Some such claims are even to be found in advertisements appearing in Amateur

at 45 Mc.† while the potential introduction of television in the higher frequency bands in the region of 400-1,000 Mc. has prompted work on valves and measurements for this range. The latter has, of course, had a marked bearing on the economic aspects of v.h.f./u.h.f. valve design. So much so, that the glass base form, which is always cheaper than the disc seal style, has made such advances as to be a strong competitor to the disc seal type for use below 1,000 Mc. except where wideband amplifiers are required.

The following comparative figures of noise factor from Fig. 1 are interesting:

| Valve | 45 Mc. | 145 Mc. | 430 Mc. |
|-----------------|--------|---------|---------|
| 6AM4 | 2.4 | 5.9 | 10.2 |
| 417A | 2.1 | 4.9 | 8.7 |
| A2521/ A2599 | 1.4 | 3.8 | 7.0 |
| A1714 | 1.9 | 4.6 | 8.2 |

It is clear from this data that the best u.h.f. triodes on glass bases are available in the U.K.

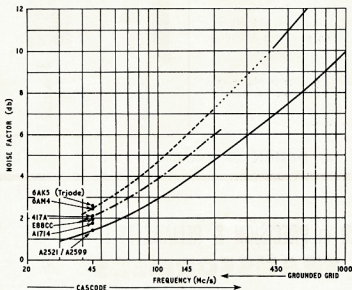


Fig. 1. Graph showing the variation of noise factor with frequency for some of the better valves for use in r.f. stages.

Radio periodicals. Very little real data, however, appears to have been published regarding the noise factors of the valves produced by the various makers and the purpose of the information presented in this article is intended to clarify this somewhat unsatisfactory state with some comparative information recently made available to the writer.

No doubt some of the claims that have been made in the past have been due to the belief that a thermionic diode noise generator, like a camera, "cannot lie." The noise generator is capable of repeating its results, but they will not necessarily be correct. In fact, a considerable amount of work has had to be done in recent years to obtain agreement between one establishment and another, let alone between one country and another.

The need for very low noise i.f. amplifiers for radar and other applications has helped in the production of reliable methods of noise factor measurement

Readers will probably have seen noise factors claimed in some advertisements which are theoretically unattainable. These are probably due to the noise measuring apparatus being even more optimistic than that used by the writer! The valves on which measurements have been made using the same apparatus are shown in Table 1.

These figures, together with the curve of Fig. 1, give a fair picture of the performance of valves available at present.

From Table 1 it can be seen that a valve such as the 417A, which was designed for wideband applications, is a significantly poorer performer than the A2521-A2599 valves which were designed specially for u.h.f. input stage service.

* It has now been agreed by the industry and Services that this frequency should be 48 Mc. for future tests.

| Valve Type | Origin | Noise Factor at 45 Mc. |
|------------------------|--------|------------------------|
| ECC85 | Holl'd | 2.5 |
| E180F (as pentode) | Holl'd | 3.5 |
| " (as triode) | Holl'd | 2.4 |
| D3A (as pentode) | Germ. | 2.6 |
| " (as triode) | Germ. | 2.0 |
| 6AM4 (u.h.f. triode) | U.S.A. | 2.4 |
| 6AJ4 (u.h.f. triode) | U.S.A. | 2.4 |
| 6AK5 (as triode) | U.S.A. | 2.5 |
| 417A (wideb'd triode) | U.S.A. | 2.1 |
| 6CW4 (narrowb'd tri.) | U.S.A. | 2.1* |
| E88CC (double triode) | Holl'd | 2.0 |
| A1714 (u.h.f. triode) | U.K. | 1.9 |
| †A2521 (u.h.f. triode) | U.K. | 1.4 |
| †A2599 (u.h.f. triode) | U.K. | 1.4 |

* By de-tuning, a noise factor of 1.8 db. is obtainable.
† U.S. type 6CR4.
‡ U.S. type 6CT4.

Table 1.

★



Lionel VK2CS and Vic VK2VL at the Gosford Field Day on 20th February.

★

24th B.E.R.U. CONTEST RESULTS

The following were the placings of Australian stations in above Contest:—

| HIGH POWER SECTION | | | |
|--------------------|--------------------------|------|----------|
| Posn. | Call Sign | Pts. | Contacts |
| 13 | VK8R | 2450 | 202 |
| 25 | VK5NQ | 2035 | 190 |
| 26 | VK2GW | 2015 | 175 |
| 53 | VK2APK | 1380 | 122 |
| 67 | VK2VN | 950 | 72 |
| 77 | VKXJ | 780 | 48 |
| 84 | VK5JT | 610 | 43 |
| 92 | VK4SD | 365 | 21 |
| 99 | VK2OW | 245 | 13 |
| | *VK5RO | 145 | 16 |
| | *VK5RK | 115 | 11 |
| | *Invalid—No declaration. | | |
| LOW POWER SECTION | | | |
| Posn. | Call Sign | Pts. | Contacts |
| 6 | VK7BM | 1200 | 53 |
| 9 | VK4SS | 880 | 64 |
| 10 | VK3ZC | 835 | 59 |
| 13 | VK2CK | 700 | 56 |
| 17 | VK2RJ | 244 | 17 |
| 18 | VK7RY | 135 | 7 |

* AEGIS

PERMEABILITY TUNED

Coil Former Assembly

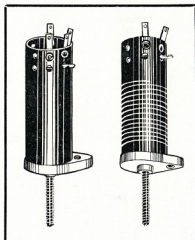
AS ILLUSTRATED . . .

The "Aegis" type H.U.4 Permeability Tuned Coil Former assembly can be supplied either plain or grooved (at approximately 16 turns per inch). Complete assembly consists of a high quality bakelised paper former, $1\frac{1}{4}" \times \frac{3}{8}"$ diameter . . . 4 cadmium plated eyelet lugs, $\frac{3}{8}" \times \frac{3}{8}"$ carbonyl iron core, adjustable through the moulded, mechanically strong plastic base. Requires two mounting holes at $7/16"$ centres (one $11/32"$ diameter, the other $\frac{1}{8}"$ diam.). Overall height above chassis when mounted 2-5/16".

PRICE:

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|-------------------|----------|----------------|--|
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- ☐ TRANSISTOR TRANSFORMERS

(Mark X in square)

National Field Day Misadventure

TRANSISTOR RADIOS

(Continued from Page 9)

With the National Field Day approaching, great plans were made by VK2 Stations, viz.: Sid VK2SW, Pierce VK2APQ, Ted VK2FE, Roy VK2KO, Ron VK2ZRM, and Ron WIA-L2025 in anticipation.

Equipment, tucker, location, etc., were gone into with fantastic detail, the major decision from all the meetings being the selection of Roy VK2KO as "Greasy"—beg your pardon!—Kook.

Anyway, came the day. Bright and early three car loads of miscellaneous started south, the leading car carrying Ted VK2FE and Roy VK2KO got as far as Tom Ugly's Bridge and "bang!!" A trailer tyre blown to smithens and no spare!

With great determination and fortitude the party scouted the hills of Hurstville trying to purchase a second-hand tyre and tube—19". What!! (Noah used this size as bollards on the Ark.) After 1½ hours' search, Roy VK2KO located one. He's still crying about the price he paid.

Proceeding onward after repairs had been effected, the party arrived at their destination, being a mountain peak nine miles south of Macquarie Pass, and proceeded to set up camp. Other than losing pints of blood to leeches, extracting thorns, plus a twisted ankle, tents and antennae were erected.

Power supplies and radio equipment were installed and then the fun started: "Sid!! You do have to filter 522 generators!! They do push out a bit of QNellie!!" "And take the blasted thing from under my chair!!"

The noise was terrific—three engines belting away—four raucous voices calling CQ! Brother!! Aspro will ease it!!

Ten o'clock Saturday night the rot set in. Sorry, it set in earlier, "belch!!" Roy outdid himself and nearly "did" everyone else with his steak, chips and egg tea. "You beauty!!" "Didn't know

it took 4 lbs. of dripping to cook 4 lbs. of steak and 8 eggs." "Ya learn every breath ya take!!" "Belch!!" "Who called the cook a —?"

Anyway at ten o'clock, a terrific clatter announced that one "dunk" had broken its crankshaft. To add fuel to the fire, the 40-80 metre rig went bad and was not immediately repairable. "Will I tell 'em what was wrong with it, Ted?" Blush!!



Sid VK2SW with Pierce VK2APQ in the background.

"Fatty," sorry, Pierce VK2APQ, had a whale of a time on 2 metres, working a total of 45 stations with an average report of 5 and 7 to 8 into Sydney—and he's still crowing.

Ron VK2ZRM did a terrific job on antennae and washing greasy dishes, whilst Ron WIA-L2025 was plant engineer and worked like a Trojan keeping power up to the operators.

Sunday evening saw six weary, dirty, but nevertheless happy Hams wending their weary way homeward, vowing that next year they would really be prepared and give the VK3 boys a blooming run for their money!

Some manufacturers print component references on the same side of the laminate as the wiring, and this of course simplifies circuit tracing.

The use of service information is the best solution; most service sheets include a drawing of the board as it will be seen during servicing, with component references clearly marked.

FAULT-FINDING

Most boards are coated with an insulant after manufacture, therefore, care must be taken to achieve proper contact with the copper foil. The insulant serves not only to prevent accidental short-circuit of the exposed foil to other parts of the circuit, but also helps to reduce oxidation.

The protective coating must be removed from the measuring points before any connection can be made—acetone applied with a soft cloth or brush will serve this purpose.

The detection of hairline cracks in the foil is facilitated by the use of a powerful lamp and a magnifying glass.

COMPONENT REPLACEMENT

Faulty components should be removed with great care. Flexing the laminate, peeling the foil or dropping solder on to the remainder of the circuit should be avoided.

SMALL COMPONENTS

Transistors, capacitors and other components may be removed as illustrated in Fig. 1. The leads should be cut as close to the component as possible. The wires left on the board should be cleaned and the leads of the new component looped around them as shown in (c). Solder may then be applied, care being taken to ensure that the heat does not damage the board or component, or melt the solder under the board.

Should the cutting of the leads be too difficult, it may be possible to cut the component in half as shown in Fig. 1 (d). The parts remaining on the leads should be removed and the leads cleaned as in Fig. 1 (e). The new component can then be added as before Fig. 1 (c).

LARGE COMPONENTS
Audio and i.f. transformers may be removed by heating the soldered connections then lightly brushing-off the solder with a stiff brush. A bristle or camel-hair brush is also suitable but may not survive many operations. Alternatively, a sharp-pointed metal rod, such as a scriber, may be used to pick off the molten solder. With any of these methods, the splashing of solder on to other parts of the circuit must be avoided.

(To be continued.)

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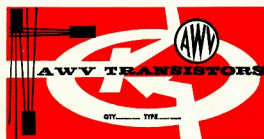
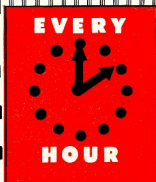
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PERTH ADELAIDE

VK-ZL DX CONTEST, 1961, RESULTS

The Federal Contest Committee of the Wireless Institute of Australia has pleasure in presenting herewith the results of the 1961 VK-ZL DX Contest.

From remarks on the logs and from local observation it appears that conditions generally were pretty bad. Some of the overseas stations also indicated that they would like to hear more VK and ZL stations in the Contest. So let us try to get a few more on the air next year.

Some very good scores were obtained, however, and our thanks to all those who took part.

We hope to meet you again next year. Best DX and 73, Federal Contest Committee, W.I.A.

AUSTRALIA

| C.W.— | Call | 80/40 | 20 | 15 | 10 | Total |
|-------|------|-------|------|------|------|-------|
| VK1JE | .. | 2185 | 2185 | | | 2185 |
| VK2GW | .. | 2730 | 3895 | 2850 | 1815 | 11380 |
| 2ADE | .. | 990 | 6095 | 2530 | 425 | 10040 |
| 2APK | .. | 1840 | 3630 | 2315 | 290 | 8075 |
| VK3DQ | .. | 2400 | 3145 | 2160 | 420 | 8125 |
| 3AHI | .. | 6095 | 6095 | | | 6095 |
| 3JF | .. | 5700 | 5700 | | | 5700 |
| 3AZZ | .. | 3470 | 1210 | | | 4680 |
| 3APJ | .. | 985 | 1855 | 925 | | 3765 |
| 3QP | .. | 2850 | 785 | | | 3635 |
| 3RJ | .. | 2600 | 735 | | | 3335 |
| 3XB | .. | 2670 | | | | 2670 |
| 3YD | .. | 1570 | | | | 1570 |
| 3AKV | .. | 1380 | | | | 1380 |
| 3UM | .. | 465 | | | | 465 |
| 3KS | .. | 110 | | | | 110 |
| VK4SS | .. | 1100 | 1785 | 365 | | 3250 |
| 4DO | .. | 1290 | 1165 | | | 2455 |
| 4SN | .. | 660 | 1405 | | | 2065 |
| 4XJ | .. | | | | 1395 | 1395 |
| 4SD | .. | 1165 | | | | 1165 |
| 4JB | .. | 265 | | | | 265 |
| VK5NO | .. | 1905 | 5430 | | | 7335 |
| 5KO | .. | 585 | 845 | 995 | | 2425 |
| 5JE | .. | 2380 | | | | 2380 |
| VK6RU | .. | 715 | 5425 | 4450 | 1190 | 11780 |
| VK7SM | .. | 1225 | 4610 | 2060 | | 7895 |
| 7JB | .. | 155 | 2135 | 855 | | 3145 |
| 7RY | .. | 110 | 210 | 110 | | 640 |
| VK9GP | .. | 1890 | 4340 | 3290 | 575 | 10095 |
| 9NW | .. | 1135 | 55 | | | 1190 |

| PHONE— | Call | 40 | 20 | 15 | 10 | Total |
|--------|------|------|------|----|----|-------|
| VK1PM | .. | 1055 | | | | 1055 |
| 1SB | .. | 270 | | | | 270 |
| VK2WC | .. | 4045 | 705 | | | 4750 |
| 2AIF | .. | 1180 | 2950 | | | 4130 |
| 2APK | .. | 1185 | 830 | | | 2015 |
| 2ADE | .. | 570 | | | | 815 |
| 2AKV | .. | 210 | 55 | | | 265 |
| VK3BM | .. | 4895 | 1710 | | | 6605 |
| VK4SN | .. | 310 | 345 | | | 655 |
| VK5MS | .. | 6730 | 1060 | | | 7790 |
| 5QR | .. | 2545 | | | | 2545 |
| 5NO | .. | 1395 | 305 | | | 1700 |
| VK7WA | .. | 1340 | 110 | | | 1450 |
| VK8AV | .. | 555 | 160 | | | 715 |
| VK9NW | .. | 1280 | 1660 | | | 2920 |
| 9AM | .. | 375 | | | | 375 |

| RECEIVING— | Points |
|----------------------------|--------|
| WIA-L2033—D. W. Shephard | 375 |
| BERS-1505—E. W. Trebilcock | 4815 |
| WIA-L5030—T. E. Hutchesson | 2195 |
| WIA-L6021—P. Drew | 685 |
| WIA-L7012—G. F. Sharp | 465 |

NEW ZEALAND

| C.W.— | Call | 80/40 | 20 | 15 | 10 | Total |
|--------|------|-------|------|------|------|-------|
| ZLIAAH | .. | 1850 | 6860 | 5790 | 790 | 15290 |
| IAIX | .. | 2095 | 6230 | 5615 | 435 | 14295 |
| IAMC | .. | 1545 | 6040 | 2805 | 1125 | 11515 |
| ING | .. | 1640 | 5390 | 2945 | 635 | 10610 |
| ZL2GS | .. | 2625 | 4240 | 2085 | | 9950 |
| 2APZ | .. | 1580 | 4255 | 2290 | 55 | 8180 |
| 2AYJ | .. | | 5580 | | | 5580 |
| ZL4GA | .. | 2765 | 6776 | 850 | | 10390 |

PHONE—

| Call | 80/40 | 20 | 15 | 10 | Total | |
|-------|-------|------|------|------|-------|-------|
| ZL1KG | .. | 275 | 5240 | 2260 | 110 | 7885 |
| IAIX | .. | 1065 | 4170 | 1930 | 355 | 7520 |
| IAAS | .. | | 3230 | | | 3230 |
| IEA | .. | 165 | 1970 | 835 | | 2970 |
| ICJ | .. | | 1595 | | | 1595 |
| ZL3VJ | .. | 110 | 985 | 240 | | 3525 |
| 3RT | .. | | | | | Check |

RECEIVING—

| | | | | |
|-----------------------|------|------|------|------|
| ZL-149—B. D. Thomson | 0000 | 0000 | 0000 | 6860 |
| RA-2881—B. L. King | 0000 | 0000 | 0000 | 2270 |
| ZL-111—C. N. Arvidson | 0000 | 0000 | 0000 | 590 |
| ZL-163—B. Heywood | 0000 | 0000 | 0000 | 320 |

OVERSEAS

| C.W.— | North America | Points |
|-------|---------------|-----------|
| W1JYH | .. | 5135 pts. |
| W1GMM | .. | 1248 |
| W1QKF | .. | 1118 |
| W1BIB | .. | 1071 |
| W1CZY | .. | 396 |
| W1AWK | .. | 220 |
| W1WY | .. | 128 |
| K1LBB | .. | 30 |
| W2JAE | .. | 3220 |
| W2WZ | .. | 2580 |
| W2AOD | .. | 377 |
| W2WV | .. | 124 |
| W3DBX | .. | 1056 |
| W3MCG | .. | 532 |
| W3BYV | .. | 532 |
| W3VWD | .. | 77 |
| K3PDE | .. | 24 |
| W4B | .. | 2729 |
| W4DQS | .. | 1416 |
| W4SNV | .. | 463 |
| W4BYV | .. | 54 |
| W5WZQ | .. | 4446 |
| K5KCC | .. | 2016 |
| W5VY | .. | 170 |
| W6EVR | .. | 3774 |
| W6ATO | .. | 810 |

| South America | | | |
|---------------|----------|-------|----------|
| HK7ZT | 240 pts. | PY4GA | 112 pts. |

| | | | | | |
|--------|-----|-----------|--------|-----|-----------|
| LU7FBH | 152 | .. | YV9SB | 306 | .. |
| LY1ADA | 182 | .. | | | |
| Europe | | | | | |
| DLEEN | .. | 1260 pts. | OE1RZ | .. | 1215 pts. |
| DL1FF | .. | 450 | OH1TN | .. | 546 |
| DJ2RE | .. | 261 | OH1TQ | .. | 546 |
| DJ2XP | .. | 261 | OH3FF | .. | 540 |
| DL1YA | .. | 84 | OH7VA | .. | 30 |
| DJ2AF | .. | 54 | OH7VJ | .. | 30 |
| DL1AVO | .. | 10 | OH2SB | .. | 16 |
| F8TM | .. | 77 | OH6AB | .. | 15 |
| F2DZ | .. | 9 | OH2BC | .. | 15 |
| G5WPF | .. | 648 | ON4FU | .. | 1062 |
| G6XN | .. | 445 | OZ7KV | .. | 15 |
| G2DC | .. | 294 | OZ2NU | .. | 15 |
| G3JUL | .. | 96 | OZENN | .. | 25 |
| G3WP | .. | 2 | PA0VB | .. | 25 |
| IW3JZ | .. | 180 | PA0TUA | .. | 96 |
| HA1KSA | .. | 200 | PA0TNR | .. | 28 |
| HA1BI | .. | 96 | PA0WAC | .. | 16 |
| HA1BCI | .. | 60 | PA0FLM | .. | 16 |
| HA1KUC | .. | 28 | PA0WDG | .. | 12 |
| HA1SE | .. | 24 | SM1RL | .. | 1000 |
| HA1KMF | .. | 12 | SM3SEU | .. | 270 |
| HB8DX | .. | 645 | SM5AJU | .. | 91 |
| HB8UD | .. | 12 | SM5JY | .. | 91 |
| LA1UB | .. | 12 | SM5CAK | .. | 20 |
| LA1B | .. | 6 | SM5FZ | .. | 640 |
| | | | SP6ZC | .. | 640 |

| Europe (Continued) | | | | | | | |
|--------------------|----|-----|------|-------|----|-----|------|
| SP9KJ | .. | 253 | pts. | UB5FY | .. | 24 | pts. |
| SP1AAY | .. | 4 | | UB5TQ | .. | 6 | " |
| SV9VI | .. | 176 | | UC2AA | .. | 198 | " |
| TF3AB | .. | 4 | | UC2CZ | .. | 45 | " |
| UB5MZ | .. | 50 | | UR2BU | .. | 9 | " |

| Asia | | | | | | | |
|--------|----|------|------|--------|----|-----|------|
| JA2JW | .. | 4773 | pts. | JA1CZG | .. | 126 | pts. |
| JA1VX | .. | 4003 | | JA8GR | .. | 84 | |
| JA1CPM | .. | 1980 | | JA8AKW | .. | 70 | |
| JA8FC | .. | 1150 | | JA1WM | .. | 50 | |
| JA1CN | .. | 594 | | JA1EM | .. | 48 | |
| JA1LN | .. | 434 | | JA1PTL | .. | 42 | |
| JA1BTG | .. | 350 | | JA8AAC | .. | 20 | |
| JA1BUN | .. | 207 | | JA1HB | .. | 1 | |
| JA1BGP | .. | 153 | | JA1B | .. | 1 | |
| JA1BRK | .. | 150 | | E22BB | .. | 264 | |
| JA6CV | .. | 128 | | XZ2TH | .. | 162 | |

| Oceania | | | | | |
|---------|----|-----------|-------|----|-----------|
| KH6IJ | .. | 4058 pts. | KW6DG | .. | 6653 pts. |
| KH6DIG | .. | 816 | VR1B | .. | 5000 |
| KR6LY | .. | 308 | ZK1AR | .. | 1694 |

| | |
|-------------|----------|
| Africa | |
| FASRJ | 187 pts. |

| Late Arrivals | | | |
|---------------|--------|-------|----------|
| DM2ABZ | 6 pts. | ON4LX | 300 pts. |

PHONE—

| PHONE— | | North America | | |
|--------|-------|---------------|--------|---------------|
| W3HUG | | 30 pts. | W6ISQ | 65 pts. |
| W3AKG | | Check | K7NNJ | 16 |
| K5MDX | | 990 pts. | W8JIN | 476 |
| W5KC | | 429 | K9ECE | 36 |
| W5IKT | | 66 | VE3DDI | 28 |
| K6UVX | | 432 | XE1CV | 243 |

| South America | | | | | |
|---------------|----|---------|--------|----|---------|
| HK3LX | .. | 98 pts. | YV5AKP | .. | 12 pts. |
| TG8AD | .. | 615 | | | |

| | |
|--------|---------|
| Europe | |
| CT1YE | 20 pts. |
| E3JZE | 15 |
| G6XN | 45 |
| OE1RZ | 32 |
| OE1RZ | 32 |
| SM3EP | 66 |
| SM3AZI | 55 |

| | | | | | |
|--------|----|------|--------|----|------|
| CITY | 20 | pts. | SM5LL | 18 | pts. |
| EA3JE | 18 | | SM5CZQ | 6 | |
| G6XN | 45 | | SM5BFE | 4 | |
| OE1RZ | 32 | | SM5BWG | 1 | |
| OH5AB | 6 | | SP9KJ | 1 | |
| SM3EP | 66 | | UR2BU | 6 | |
| SM3AZI | 55 | | | | |

| Asia | | | | | | | | | |
|--------|----|----|-----|------|--------|----|----|-----|------|
| JA6CY | .. | .. | 816 | pts. | JA1AMH | .. | .. | 4 | pts. |
| JA2JW | .. | .. | 180 | .. | JA1BU | .. | .. | 1 | .. |
| JA1CYG | .. | .. | 98 | .. | JA1CBY | .. | .. | 1 | .. |
| JA1PKY | .. | .. | 84 | .. | HM4AQ | .. | .. | 175 | .. |
| JA2AEY | .. | .. | 80 | .. | 9M2DQ | .. | .. | 735 | .. |
| JA3BBG | .. | .. | 21 | .. | 9M2AD | .. | .. | 395 | .. |
| JA8FC | .. | .. | 20 | .. | | | | | |

| Oceania | | | | | |
|-------------|------|------|-------------|-----|------|
| KH6IJ | 810 | pts. | VR2BZ | 360 | pts. |
| KR6MF | 242 | " | ZK1AR | 338 | " |
| KW6DG | 2350 | " | | | |

| RECEIVING— | Points |
|--------------------------|-----------|
| ISWL/K2-7078—B. Adams | Check |
| SWL/W5—R. Harris | Check |
| VE3-PE/IR—D. Falke | Check |
| JA1-396—Y. Ishino | 1896 pts. |
| SR3-1502—R. W. F. Thomas | 324 |
| HAS-604—E. H. Sherlock | 120 |
| HA8-207—E. Matzon | 120 |
| SM5-2735—K. Nyström | 80 |
| YO2-1000—S. I. Iulius | Check |

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ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

How did you find DX this past month? It would seem that the band has been as expected; that is, only fair, with signals generally somewhat down and uncertain.

In an attempt to find out just how much DX can be heard and worked on 3.5 Mc. my listening this past few weeks has been concentrated on this band with, I am sorry to say, not very encouraging results. For the first two weeks of Feb. this band was very poor indeed and the noise level very high. However, it improved considerably towards the end of the month. All continents were heard, with the exception of South Africa. The nights of the 24th and 25th were perhaps the best of the month. Ws was easily workable and some Oceanic prefixes were S-S, such as ZK1, KH6 KG6, etc. Later on, towards morning, the Europeans were very good, but not workable with my QRP and 80 m. dipole. With a bit of power and a good antenna, I see no reason why these Europeans can't be worked on 3.5 Mc. They seem to be fairly consistent and best an hour or two before dawn, would like to know if any VK can, and does, work them at this hour.

The 7 Mc. band still has a fair bit of DX on it, from 1500 hrs. G.M.T. onward to 2100 hrs. G.M.T. North Europe shows up firstly, and then the S's seem to expand into a main eye and stations from Mediterranean, North Africa, South Africa and Northern Asia come in at workable strength.

14 Mc. has been very scratchy in the early afternoons to the East, but the L.P. circuit to the West in the mornings around 2100 hrs. G.M.T. has been open with good signal strength. This latter circuit on 7 Mc. seems to be a thing of the past. I would like to know if some of those S's who have done so well previously can still work Ws on L.P. around 2100 hrs. G.M.T., on 40 mc.

DX-PEDITION NOTES

DX-peditionist Danny, says he had a really tough time in the good ship "Yasme"—covered over 800 miles from the Marquesas Islands to Tahiti, and back, by courtesy of Bob K6CQM, Editor DX'er's. The only other Ham active from F08 are F08AB and F08AQ. F08AC is the only sideband station. Dick KV4AA and Jack ZL3CX are both helping in the preparation for his future DX, but he expects to be in Tahiti for about three months. He was disappointed in the lack of publicity in VK about the Marquesas adventure—hopes that this part of F08 will become a new country, in the foreseeable future.

The only Ham on Campbell Island is Ian ZL4JF; in fact, he's the only Ham that's ever been on the island. He is active on both a.m. and c.w., and says there's a chance of a sideband signal emanating from that lonely isle next month. His QSL is one of those attractive fold-over types—manager is Jack ZL3GX.

Incidentally, Jack ZL3VB has left Chatham Island and is now in Wellington. I believe that he had a rather bad time of it there. This would be unfortunate as he's the only Ham on this island too.

Memphis last week that Mike G3JFF/MM (formerly YJ1MA) had arrived in Fiji. Now comes the news that his new call is VE2EA.

Quite a few VK9 (Papua) stations are on the air, but probably the only active Ham from New Guinea is Ian VK9VM, from Rabaul. Work the on, and you'll be in luck.

PJ2AA can be worked on 14 Mc. s.s.b. from his QTH of Aruba, Netherlands Antilles (or is it is in the vicinity of Venezuela, West Indies). This is a good one, but you may find some difficulty in his coming back to your call. George runs a sked with W.L. land. Look for him on the big side of the band about 1145Z.

For those wanting Zone 12, Ray CECOR has been working the band with a fair bit of DX the last couple of weeks on 14 Mc. s.s.b. at about 9 p.m. E.A.S.T. He uses a 2 element 3 band quad and a vertical r.f. antenna. His signal is really strong in VK. QSL to Box 3463, Santiago, Chile.

More new prefixes: UW3 (Eugene UW3UP, from Chicago, who spells his GURKY, is s.s.b. operator; work him at 2100Z). UW9 (Vlad

UW9KC from Sverdlovsk; work him at 1145Z). Perhaps all the UA prefixes will be augmented by UW ones. You might think that IJADI is some new African Republic. It is just the new prefix for a Japanese Antarctic station. Listen for Nippon Svyozd Base Antenna, at about 5.45 p.m. E.A.S.T. on 14 Mc. c.w. QSL via the J.A.R.L. (Very many thanks Ken VK3TL, for all the above informative notes. —A.)

Did you work VBRZ? For QSL clarification, he is John VK4ZB (Where to next, Q.B. A.) D5JPF says he is going to FC land next June for a two weeks' DX-pedition. de K6J3. VU2NR, contrary to previous reports, does not have permission to operate from ACS. He is unable to go due to the political situation there. Some of the Ws are trying to contact ACS for the new president in N. with the U.N. in hopes that he may be able to help. VU2NR says he would leave immediately after receiving permission.

H1AA has a new Drake rx and expects to be on s.s.b. in the near future. ZD6PT is reported active on either 1600 or 1605 kc., around 2100 G.M.T. He must QRT around 2150 G.M.T. for lack of power. He skeds ZDT every Thursday, but didn't say what time.

Jordan: Bryan MP4QAO, etc., has applied for a licence to operate for a short period from Jordan, but has met with difficulties, because of JY2NZ's previous activity in that country. The conditions of JY2NZ's licence, seem to have been overstepped considerably.

5BZ has a new rig from Tanganyika. ZS2MI Marion Island. ZSSUP says that ZS2MI is active only on Sunday between 1400 and 1500 G.M.T. around 1400 c.w.

Rob: The new QSL to be going to Rodriguez in May 1962. His call will most likely be VQ8BCR. He will be active on 14 and 21 Mc.

Bajo Nuevo HK0: The HK1Q trip with the Malpaquo gang is now set for April 27, if all goes as planned.

Bob K6CQM, Editor DX'er's, by courtesy of Bob K6CQM, Editor DX'er's.

Gus W4BPD gives us some info, about his next DX-pedition, which will commence from VQ9. He says that if he is able to get a QSO from Gus' first expedition try a card to W4BCL, who will be the QSL manager from now on. Freds to be used are 14095, 14065 kc. for c.w. and 14120 and 14130 for s.s.b. On 15 metres, 21034, 21065 c.w., and 21120 to 21130 s.s.b. Call him no closer than 10 kc. up or down. 3.5 and 7 Mc. will also be used if conditions permit. (From Frank VK3QL.)

ACTIVITIES

Ken VK3TL had a quiet month, but worked the following—14 Mc. c.w.: KM8CR, UW9KCA, VK9GP, VK9VM (New Guinea), 14 Mc. phone: F08AB, HX1X, HZ1AB, I1NC, OH2NR, WY1W, W8ABX, ZL4JF (Campbell Is.), 21 Mc. c.w.: OH2PO, OH3WH, SM8BVF, SM8LF, VU2JA, QSL via Dutch Consulate, PS9 (Dutch East SRE, DL1XZ, DL1EN, DL5KP, DU6TY, EATZ, HA1KSA, HX1X, I1IF, I1WBK, I1ZT, J4B9V, KX1W, OZ4H, UA1V, VS4BY, VS8S, VS8CS, YJ1MA, ZC4TX, ZETIR, ZL4JF (Campbell Is.), 487YL.

Eric BERS-193 added the following to his already long list of 14 Mc. c.w. his: J0AY1, JA8AK, OK3KJF, UA3KAA/JKAB, UB5CW, UT5QC, UCBHW, W. 7 Mc. c.w.: DJMSP, KL7AF, K1W, K2W, K3W, K4W, K5W, K6W, K7W, K8W, K9W, K10W, K11W, K12W, K13W, K14W, K15W, K16W, K17W, K18W, K19W, K20W, K21W, K22W, K23W, K24W, K25W, K26W, K27W, K28W, K29W, K30W, K31W, K32W, K33W, K34W, K35W, K36W, K37W, K38W, K39W, K40W, K41W, K42W, K43W, K44W, K45W, K46W, K47W, K48W, K49W, K50W, K51W, K52W, K53W, K54W, K55W, K56W, K57W, K58W, K59W, K60W, K61W, K62W, K63W, K64W, K65W, K66W, K67W, K68W, K69W, K70W, K71W, K72W, K73W, K74W, K75W, K76W, K77W, K78W, K79W, K80W, K81W, K82W, K83W, K84W, K85W, K86W, K87W, K88W, K89W, K90W, K91W, K92W, K93W, K94W, K95W, K96W, K97W, K98W, K99W, K100W.

Hal VK4DO reports that conditions were poor during the time he was active. His list for 14 Mc. c.w. was: J0AY1, JA8AK, OK3KJF, UA3KAA/JKAB, UB5CW, UT5QC, UCBHW, W. 7 Mc. c.w.: DJMSP, KL7AF, K1W, K2W, K3W, K4W, K5W, K6W, K7W, K8W, K9W, K10W, K11W, K12W, K13W, K14W, K15W, K16W, K17W, K18W, K19W, K20W, K21W, K22W, K23W, K24W, K25W, K26W, K27W, K28W, K29W, K30W, K31W, K32W, K33W, K34W, K35W, K36W, K37W, K38W, K39W, K40W, K41W, K42W, K43W, K44W, K45W, K46W, K47W, K48W, K49W, K50W, K51W, K52W, K53W, K54W, K55W, K56W, K57W, K58W, K59W, K60W, K61W, K62W, K63W, K64W, K65W, K66W, K67W, K68W, K69W, K70W, K71W, K72W, K73W, K74W, K75W, K76W, K77W, K78W, K79W, K80W, K81W, K82W, K83W, K84W, K85W, K86W, K87W, K88W, K89W, K90W, K91W, K92W, K93W, K94W, K95W, K96W, K97W, K98W, K99W, K100W.

UA8KT, UA8RM, UA3KAA, UA4KAB, UA4SR, UA8W, UA8X, UA8Y, UA8Z, UA9A, UA9B, UA9C, UA9D, UA9E, UA9F, UA9G, UA9H, UA9I, UA9J, UA9K, UA9L, UA9M, UA9N, UA9O, UA9P, UA9Q, UA9R, UA9S, UA9T, UA9U, UA9V, UA9W, UA9X, UA9Y, UA9Z, UA9AA, UA9AB, UA9AC, UA9AD, UA9AE, UA9AF, UA9AG, UA9AH, UA9AI, UA9AJ, UA9AK, UA9AL, UA9AM, UA9AN, UA9AO, UA9AP, UA9AQ, UA9AR, UA9AS, UA9AT, UA9AU, UA9AV, UA9AW, UA9AX, UA9AY, UA9AZ, UA9BA, UA9BB, UA9BC, UA9BD, UA9BE, UA9BF, UA9BG, UA9BH, UA9BI, UA9BJ, UA9BK, UA9BL, UA9BM, UA9BN, UA9BO, UA9BP, UA9BQ, UA9BR, UA9BS, UA9BT, UA9BU, UA9BV, UA9BW, UA9BX, UA9BY, UA9BZ, UA9CA, UA9CB, UA9CC, UA9CD, UA9CE, UA9CF, UA9CG, UA9CH, UA9CI, UA9CJ, UA9CK, UA9CL, UA9CM, UA9CN, UA9CO, UA9CP, UA9CQ, UA9CR, UA9CS, UA9CT, UA9CU, UA9CV, UA9CW, UA9CX, UA9CY, UA9CZ, UA9DA, UA9DB, UA9DC, UA9DD, UA9DE, UA9DF, UA9DG, UA9DH, UA9DI, UA9DJ, UA9DK, UA9DL, UA9DM, UA9DN, UA9DO, UA9DP, UA9DQ, UA9DR, UA9DS, UA9DT, UA9DU, UA9DV, UA9DW, UA9DX, UA9DY, UA9DZ, UA9EA, UA9EB, UA9EC, UA9ED, UA9EE, UA9EF, UA9EG, UA9EH, UA9EI, UA9EJ, UA9EK, UA9EL, UA9EM, UA9EN, UA9EO, UA9EP, UA9EQ, UA9ER, UA9ES, UA9ET, UA9EU, UA9EV, UA9EW, UA9EX, UA9EY, UA9EZ, UA9FA, UA9FB, UA9FC, UA9FD, UA9FE, UA9FF, UA9FG, UA9FH, UA9FI, UA9FJ, UA9FK, UA9FL, UA9FM, UA9FN, UA9FO, UA9FP, UA9FQ, UA9FR, UA9FS, UA9FT, UA9FU, UA9FV, UA9FW, UA9FX, UA9FY, UA9FZ, UA9GA, UA9GB, UA9GC, UA9GD, UA9GE, UA9GF, UA9GG, UA9GH, UA9GI, UA9GJ, UA9GK, UA9GL, UA9GM, UA9GN, UA9GO, UA9GP, UA9GQ, UA9GR, UA9GS, UA9GT, UA9GU, UA9GV, UA9GW, UA9GX, UA9GY, UA9GZ, UA9HA, UA9HB, UA9HC, UA9HD, UA9HE, UA9HF, UA9HG, UA9HH, UA9HI, UA9HJ, UA9HK, UA9HL, UA9HM, UA9HN, UA9HO, UA9HP, UA9HQ, UA9HR, UA9HS, UA9HT, UA9HU, UA9HV, UA9HW, UA9HX, UA9HY, UA9HZ, UA9IA, UA9IB, UA9IC, UA9ID, UA9IE, UA9IF, UA9IG, UA9IH, UA9IJ, UA9IK, UA9IL, UA9IM, UA9IN, UA9IO, UA9IP, UA9IQ, UA9IR, UA9IS, UA9IT, UA9IU, UA9IV, UA9IW, UA9IX, UA9IY, UA9IZ, UA9JA, UA9JB, UA9JC, UA9JD, UA9JE, UA9JF, UA9JG, UA9JH, UA9JI, UA9JJ, UA9JK, UA9JL, UA9JM, UA9JN, UA9JO, UA9JP, UA9JQ, UA9JR, UA9JS, UA9JT, UA9JU, UA9JV, UA9JW, UA9JX, UA9JY, UA9JZ, UA9KA, UA9KB, UA9KC, UA9KD, UA9KE, UA9KF, UA9KG, UA9KH, UA9KI, UA9KJ, UA9KL, UA9KM, UA9KN, UA9KO, UA9KP, UA9KQ, UA9KR, UA9KS, UA9KT, UA9KU, UA9KV, UA9KW, UA9KX, UA9KY, UA9KZ, UA9LA, UA9LB, UA9LC, UA9LD, UA9LE, UA9LF, UA9LG, UA9LH, UA9LI, UA9LJ, UA9LK, UA9LL, UA9LM, UA9LN, UA9LO, UA9LP, UA9LQ, UA9LR, UA9LS, UA9LT, UA9LU, UA9LV, UA9LW, UA9LX, UA9LY, UA9LZ, UA9MA, UA9MB, UA9MC, UA9MD, UA9ME, UA9MF, UA9MG, UA9MH, UA9MI, UA9MJ, UA9MK, UA9ML, UA9MN, UA9MO, UA9MP, UA9MQ, UA9MR, UA9MS, UA9MT, UA9MU, UA9MV, UA9MW, UA9MX, UA9MY, UA9MZ, UA9NA, UA9NB, UA9NC, UA9ND, UA9NE, UA9NF, UA9NG, UA9NH, UA9NI, UA9NJ, UA9NK, UA9NL, UA9NM, UA9NN, UA9NO, UA9NP, UA9NQ, UA9NR, UA9NS, UA9NT, UA9NU, UA9NV, UA9NW, UA9NX, UA9NY, UA9NZ, UA9OA, UA9OB, UA9OC, UA9OD, UA9OE, UA9OF, UA9OG, UA9OH, UA9OI, UA9OJ, UA9OK, UA9OL, UA9OM, UA9ON, UA9OO, UA9OP, UA9OQ, UA9OR, UA9OS, UA9OT, UA9OU, UA9OV, UA9OW, UA9OX, UA9OY, UA9OZ, UA9PA, UA9PB, UA9PC, UA9PD, UA9PE, UA9PF, UA9PG, UA9PH, UA9PI, UA9PJ, UA9PK, UA9PL, UA9PM, UA9PN, UA9PO, UA9PP, UA9PQ, UA9PR, UA9PS, UA9PT, UA9PU, UA9PV, UA9PW, UA9PX, UA9PY, UA9PZ, UA9QA, UA9QB, UA9QC, UA9QD, UA9QE, UA9QF, UA9QG, UA9QH, UA9QI, UA9QJ, UA9QK, UA9QL, UA9QM, UA9QN, UA9QO, UA9QP, UA9QQ, UA9QR, UA9QS, UA9QT, UA9QU, UA9QV, UA9QW, UA9QX, UA9QY, UA9QZ, UA9RA, UA9RB, UA9RC, UA9RD, UA9RE, UA9RF, UA9RG, UA9RH, UA9RI, UA9RJ, UA9RK, UA9RL, UA9RM, UA9RN, UA9RO, UA9RP, UA9RQ, UA9RR, UA9RS, UA9RT, UA9RU, UA9RV, UA9RW, UA9RX, UA9RY, UA9RZ, UA9SA, UA9SB, UA9SC, UA9SD, UA9SE, UA9SF, UA9SG, UA9SH, UA9SI, UA9SJ, UA9SK, UA9SL, UA9SM, UA9SN, UA9SO, UA9SP, UA9SQ, UA9SR, UA9SS, UA9ST, UA9SU, UA9SV, UA9SW, UA9SX, UA9SY, UA9SZ, UA9TA, UA9TB, UA9TC, UA9TD, UA9TE, UA9TF, UA9TG, UA9TH, UA9TI, UA9TJ, UA9TK, UA9TL, UA9TM, UA9TN, UA9TO, UA9TP, UA9TQ, UA9TR, UA9TS, UA9TT, UA9TU, UA9TV, UA9TW, UA9TX, UA9TY, UA9TZ, UA9UA, UA9UB, UA9UC, UA9UD, UA9UE, UA9UF, UA9UG, UA9UH, UA9UI, UA9UJ, UA9UK, UA9UL, UA9UM, UA9UN, UA9UO, UA9UP, UA9UQ, UA9UR, UA9US, UA9UT, UA9UU, UA9UV, UA9UW, UA9UX, UA9UY, UA9UZ, UA9VA, UA9VB, UA9VC, UA9VD, UA9VE, UA9VF, UA9VG, UA9VH, UA9VI, UA9VJ, UA9VK, UA9VL, UA9VM, UA9VN, UA9VO, UA9VP, UA9VQ, UA9VR, UA9VS, UA9VT, UA9VU, UA9VV, UA9VW, UA9VX, UA9VY, UA9VZ, UA9WA, UA9WB, UA9WC, UA9WD, UA9WE, UA9WF, UA9WG, UA9WH, UA9WI, UA9WJ, UA9WK, UA9WL, UA9WM, UA9WN, UA9WO, UA9WP, UA9WQ, UA9WR, UA9WS, UA9WT, UA9WU, UA9WV, UA9WW, UA9WX, UA9WY, UA9WZ, UA9XA, UA9XB, UA9XC, UA9XD, UA9XE, UA9XF, UA9XG, UA9XH, UA9XI, UA9XJ, UA9XK, UA9XL, UA9XM, UA9XN, UA9XO, UA9XP, UA9XQ, UA9XR, UA9XS, UA9XT, UA9XU, UA9XV, UA9XW, UA9XX, UA9XY, UA9XZ, UA9YA, UA9YB, UA9YC, UA9YD, UA9YE, UA9YF, UA9YG, UA9YH, UA9YI, UA9YJ, UA9YK, UA9YL, UA9YM, UA9YN, UA9YO, UA9YP, UA9YQ, UA9YR, UA9YS, UA9YT, UA9YU, UA9YV, UA9YW, UA9YX, UA9YY, UA9YZ, UA9ZA, UA9ZB, UA9ZC, UA9ZD, UA9ZE, UA9ZF, UA9ZG, UA9ZH, UA9ZI, UA9ZJ, UA9ZK, UA9ZL, UA9ZM, UA9ZN, UA9ZO, UA9ZP, UA9ZQ, UA9ZR, UA9ZS, UA9ZT, UA9ZU, UA9ZV, UA9ZW, UA9ZX, UA9ZY, UA9ZZ.

Don L202 reports a fair month with these hrs: 1.3 Mc. c.w. W6ZDZ, W6ZKT, 7 Mc. c.w.: LA1VG/MM, Ws, V6P6F, V6ZEA, DU7SV, KR6AB, JA1CG, V61B, UA0KCI, US8PF, VU9EU, VU2PN, V6ACV, 14 Mhz. c.w.: 4X4MB, HC2IU, ON4UO, LZ3AKB, V84RM, KV4CI, OH8RH, BV3HPT, UQ2KDD, U8KAA, OX4L, ZM8KAA, UZ2RA, UZ2C, FY2CD, U7F0J, E8BC, V6, etc. VY1CQ, VU2PP, H1AA, KR8UO, 45TVL, 14 Mc. s.s.b.: UA0VQ, KR6BA, K6GAA, K6BU, W8WAS, OA4J, W8WAS, KR6BA, KR6AS, H8SB, RS1B, KH-6B, EP2AG, K56BV, FHF, UADW, HB8SI, G13VJ, 21 Mc. c.w.: GAJZ, Jas, 21 Mc. c.w.: JA1GO, UA1CQ, K5CJ, UL7F, FMA, UA-SKO, QSL recd.: GCF3MF, KH8EDY, KH-6GO/KH, ZS8AOV, 48TEC. (Don now has 100 countries confirmed.)

Rob VBRZ has a light with the following DX worked: 14 Mc. s.s.b.: JASMAZ, KR-6KS, VR2KE, KH6DZ, 21 Mc. a.m.: DU1MR, KR6AB, GZCJN, G1KQ, UZ2C, OX4Q, G6DW, KN5MOY/MM, F2TV. (Thanks, Rob, and welcome to the ranks. Can I sked you each month for any DX news? Please let me know all.)

Frank VK3QL has been active on 80 mc and reports working the following: JA8AK, JA8SU, F08AB, F08AC, F08AD, F08AE, F08AF, F08AG, F08AH, F08AI, F08AJ, F08AK, F08AL, F08AM, F08AN, F08AO, F08AP, F08AQ, F08AR, F08AS, F08AT, F08AU, F08AV, F08AW, F08AX, F08AY, F08AZ, F08BA, F08BB, F08BC, F08BD, F08BE, F08BF, F08BG, F08BH, F08BI, F08BJ, F08BK, F08BL, F08BM, F08BN, F08BO, F08BP, F08BQ, F08BR, F08BS, F08BT, F08BU, F08BV, F08BW, F08BX, F08BY, F08BZ, F08CA, F08CB, F08CC, F08CD, F08CE, F08CF, F08CG, F08CH, F08CI, F08CJ, F08CK, F08CL, F08CM, F08CN, F08CO, F08CP, F08CQ, F08CR, F08CS, F08CT, F08CU, F08CV, F08CW, F08CX, F08CY, F08CZ, F08DA, F08DB, F08DC, F08DD, F08DE, F08DF, F08DG, F08DH, F08DI, F08DJ, F08DK, F08DL, F08DM, F08DN, F08DO, F08DP, F08DQ, F08DR, F08DS, F08DT, F08DU, F08DV, F08DW, F08DX, F08DY, F08DZ, F08EA, F08EB, F08EC, F08ED, F08EE, F08EF, F08EG, F08EH, F08EI, F08EJ, F08EK, F08EL, F08EM, F08EN, F08EO, F08EP, F08EQ, F08ER, F08ES, F08ET, F08EU, F08EV, F08EW, F08EX, F08EY, F08EZ, F08FA, F08FB, F08FC, F08FD, F08FE, F08FF, F08FG, F08FH, F08FI, F08FJ, F08FK, F08FL, F08FM, F08FN, F08FO, F08FP, F08FQ, F08FR, F08FS, F08FT, F08FU, F08FV, F08FW, F08FX, F08FY, F08FZ, F08GA, F08GB, F08GC, F08GD, F08GE, F08GF, F08GG, F08GH, F08GI, F08GJ, F08GK, F08GL, F08GM, F08GN, F08GO, F08GP, F08GQ, F08GR, F08GS, F08GT, F08GU, F08GV, F08GW, F08GX, F08GY, F08GZ, F08HA, F08HB, F08HC, F08HD, F08HE, F08HF, F08HG, F08HH, F08HI, F08HJ, F08HK, F08HL, F08HM, F08HN, F08HO, F08HP, F08HQ, F08HR, F08HS, F08HT, F08HU, F08HV, F08HW, F08HX, F08HY, F08HZ, F08IA, F08IB, F08IC, F08ID, F08IE, F08IF, F08IG, F08IH, F08IJ, F08IK, F08IL, F08IM, F08IN, F08IO, F08IP, F08IQ, F08IR, F08IS, F08IT, F08IU, F08IV, F08IW, F08IX, F08IY, F08IZ, F08JA, F08JB, F08JC, F08JD, F08JE, F08JF, F08JG, F08JH, F08JI, F08JJ, F08JK, F08JL, F08JM, F08JN, F08JO, F08JP, F08JQ, F08JR, F08JS, F08JT, F08JU, F08JV, F08JW, F08JX, F08JY, F08JZ, F08KA, F08KB, F08KC, F08KD, F08KE, F08KF, F08KG, F08KH, F08KI, F08KJ, F08KL, F08KM, F08KN, F08KO, F08KP, F08KQ, F08KR, F08KS, F08KT, F08KU, F08KV, F08KW, F08KX, F08KY, F08KZ, F08LA, F08LB, F08LC, F08LD, F08LE, F08LF, F08LG, F08LH, F08LI, F08LJ, F08LK, F08LL, F08LM, F08LN, F08LO, F08LP, F08LQ, F08LR, F08LS, F08LT, F08LU, F08LV, F08LW, F08LX, F08LY, F08LZ, F08MA, F08MB, F08MC, F08MD, F08ME, F08MF, F08MG, F08MH, F08MI, F08MJ, F08MK, F08ML, F08MN, F08MO, F08MP, F08MQ, F08MR, F08MS, F08MT, F08MU, F08MV, F08MW, F08MX, F08MY, F08MZ, F08NA, F08NB, F08NC, F08ND, F08NE, F08NF, F08NG, F08NH, F08NI, F08NJ, F08NK, F08NL, F08NM, F08NN, F08NO, F08NP, F08NQ, F08NR, F08NS, F08NT, F08NU, F08NV, F08NW, F08NX, F08NY, F08NZ, F08OA, F08OB, F08OC, F08OD, F08OE, F08OF, F08OG, F08OH, F08OI, F08OJ, F08OK, F08OL, F08OM, F08ON, F08OO, F08OP, F08OQ, F08OR, F08OS, F08OT, F08OU, F08OV, F08OW, F08OX, F08OY, F08OZ, F08PA, F08PB, F08PC, F08PD, F08PE, F08PF, F08PG, F08PH, F08PI, F08PJ, F08PK, F08PL, F08PM, F08PN, F08PO, F08PP, F08PQ, F08PR, F08PS, F08PT, F08PU, F08PV, F08PW, F08PX, F08PY, F08PZ, F08QA, F08QB, F08QC, F08QD, F08QE, F08QF, F08QG, F08QH, F08QI, F08QJ, F08QK, F08QL, F08QM, F08QN, F08QO, F08QP, F08QQ, F08QR, F08QS, F08QT, F08QU, F08QV, F08QW, F08QX, F08QY, F08QZ, F08RA, F08RB, F08RC, F08RD, F08RE, F08RF, F08RG, F08RH, F08RI, F08RJ, F08RK, F08RL, F08RM, F08RN, F08RO, F08RP, F08RQ, F08RR, F08RS, F08RT, F08RU, F08RV, F08RW, F08RX, F08RY, F08RZ, F08SA, F08SB, F08SC, F08SD, F08SE, F08SF, F08SG, F08SH, F08SI, F08SJ, F08SK, F08SL, F08SM, F08SN, F08SO, F08SP, F08SQ, F08SR, F08SS, F08ST, F08SU, F08SV, F08SW, F08SX, F08SY, F08SZ, F08TA, F08TB, F08TC, F08TD, F08TE, F08TF, F08TG, F08TH, F08TI, F08TJ, F08TK, F08TL, F08TM, F08TN, F08TO, F08TP, F08TQ, F08TR, F08TS, F08TT, F08TU, F08TV, F08TW, F08TX, F08TY, F08TZ, F08UA, F08UB, F08UC, F08UD, F08UE, F08UF, F08UG, F08UH, F08UI, F08UJ, F08UK, F08UL, F08UM, F08UN, F08UO, F08UP, F08UQ, F08UR, F08US, F08UT, F08UU, F08UV, F08UW, F08UX, F08UY, F08UZ, F08VA, F08VB, F08VC, F08VD, F08VE, F08VF, F08VG, F08VH, F08VI, F08VJ, F08VK, F08VL, F08VM, F08VN, F08VO, F08VP, F08VQ, F08VR, F08VS, F08VT, F08VU, F08VV, F08VW, F08VX, F08VY, F08VZ, F08WA, F08WB, F08WC, F08WD, F08WE, F08WF, F08WG, F08WH, F08WI, F08WJ, F08WK, F08WL, F08WM, F08WN, F08WO, F08WP, F08WQ, F08WR, F08WS, F08WT, F08WU, F08WV, F08WW, F08WX, F08WY, F08WZ, F08XA, F08XB, F08XC, F08XD, F08XE, F08XF, F08XG, F08XH, F08XI, F08XJ, F08XK, F08XL, F08XM, F08XN, F08XO, F08XP, F08XQ, F08XR, F08XS, F08XT, F08XU, F08XV, F08XW, F08XX, F08XY, F08XZ, F08YA, F08YB, F08YC, F08YD, F08YE, F08YF, F08YG, F08YH, F08YI, F08YJ, F08YK, F08YL, F08YM, F08YN, F08YO, F08YP, F08YQ, F08YR, F08YS, F08YT, F08YU, F08YV, F08YW, F08YX, F08YY, F08YZ, F08ZA, F08ZB, F08ZC, F08ZD, F08ZE, F08ZF, F08ZG, F08ZH, F08ZI, F08ZJ, F08ZK, F08ZL, F08ZM, F08ZN, F08ZO, F08ZP, F08ZQ, F08ZR, F08ZS, F08ZT, F08ZU, F08ZV, F08ZW, F08ZX, F08ZY, F08ZZ.

ADDRESSES

BVIUSC—Box 196, A.R.S.E.C. (S.A.A.T.), APO Freds, 10 Mo. Francisco, California.
HL9KT—Radio Co., 304 Sig. Bn., APO 301, San Francisco, California.
JZBMB—Bert Mordenman, C/o. Hulse Middendorp, Midden Dorp, Warmond, Holland.

SUMMARY

Conditions may live up for a while during the autumn period. Between the two extremes of mid-summer and mid-winter, i.e. spring and autumn, there is a time when the weather is just what you need. I hope that 80 mc may let a few signals through during April and May. The QRN should subside.

Eric BERS-193 reports that the YLs are taking a hand in things on 3.5 Mc. c.w. at 10 p.m. E.A.S.T. Monday nights. Heather VK2ID, HX1C, VK2SU, and Mavis VK3KS apply the feminine name to the Morse key. Nice work, Girls, keep it up, but remember we read your work! This is not exactly DX, but our bands could stand more YL operators for a while.

Ken VK3TL wants the times for working Europe S.R. on 7 Mc. Try leaving your nice warm bed around 1600 hrs. G.M.T., and from about 10.00 hrs. to 11.00 hrs. you should be able to pick up a few good ones. Good hunting!

My better teller gave me this one. One day a very young and newly-wed bride, with a limited-licensed Ham came into the bank with a cheque; obviously the first she had handed. The teller asked her YL operator, and she turned it on its back. She stared at him with beauty and bewilderment. "Just sign it, there, as you call it, Ham, and I will be glad to help." She wrote, "Lovingly yours, Margaret."

Once again very many thanks to all those who have supplied info. for DX news. There are 27 DXers in the UK, 18 in the USA, and others. 73, de VK4SS.

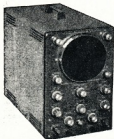
STOP PRESS—Arch VK5XK advises that he is despatching QSL cards for Norfolk Island and New Hebrides. He has also sent a QSL card for one as soon as possible.



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ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

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#

VICTORIA

Last general meeting of the Group, 14 members were present. It was suggested by members to make a recording of the S.W.L. Section of the b.c. from Warrambol on week-end of the Convention, the recording was made on Saturday night. It was transmitted on 80 mx from 3FX to 30M and re-broadcast from 3WV/Portland on Sunday night.

At construction nights, it was suggested by Maurice Cox to construct simple radio gear such as single-tube converters to feed into b.c. sets. The younger members can afford to build this gear, and will also get them interested in the listening side of radio.

Ian L3065 has arrived back in Melbourne from VK1 and has his nose back to the grindstone once again. He has managed to find some time for a little DX hunting and has improved his total a small amount, but has heard no new countries.

Noel L3161 has not had the opportunity to do a great deal of listening this month. 20 mx has been fair to W land in early morning via the long path, and has been much better from 19th Feb. The 40 and 80 mx bands have not been too busy. At present Noel is building a W8AK antenna and with a bit of luck it should be in operation by Easter time. The next job is to move the rx up into the spare bedroom for the winter months and settle down to some solid listening to boost his score.

Maurie L3055 is still listening to rare DX on 20 and 10 mx and is still waiting for an opening on 10 mx (with you Jack OM). He has wired up a speaker and headphone network so as either the H.R.O. or the BC348 can work into the one speaker. He is thinking seriously of disposing of the vee beams and erecting two 20 mx Windoms. Also he thinks he may put up a ground plane antenna for 10 mx. Cards received: DU5U, G3NVA, LA5ID, XE1CV/XF4, VK9GP.

Ken L3117 has not been able to attend the meetings because of a transport problem. He was planning to attend the Convention, but his parents disapproved. The rx line-up at Ken's QTH is a Philips No. 4 with an extra audio stage and a variable tuning eye. The antenna consists of two folded dipoles, one for 7 Mc. and the other for 14 Mc. The shack is made of corrugated iron sheeting and is about

8 ft. square by 7 ft. high. Ken reports that 80 mx is opening up for DX now that winter is coming on.

TASMANIA

Activities are very quiet according to Neville T2EZ/L7013, who has been away for two weeks, therefore very little DX was heard. He is active on 2 mx also. David T2AY has been practicing c.w. and will sit for his full licence soon. He has been hearing some good signals on 40 mx with his new R/89 receiver.

Ted TEB has recently purchased a BC494 which is working really well. He is planning some modifications to it so as he can hear the rare DX.

Greg Johnston has been away most of the last month and has not been very active.

RADIO MAIL

The mail this month is from the following listeners: Peter Drew, Chas Abernethy, Eric Trebilcock, Peter Fields, and Don Granley.

Peter L3021 has found 20 mx very good every night from Asia and Europe and good in the mornings to U.S.A. During the month Peter heard his first ZS and VU on 40 mx band. Europeans heard for his full licence G.M.T. on 40 mx as well as two ZS stations. One new country confirmed by Peter was XE1HNT. Cards received by Peter during the month: L311B, VK3JOC 7 Mc. s.s.b. mobile, WERO, XE1HNT.

Ken L3117 reports that conditions for the Ross Island Contest were perfect for most of the four weeks. In fact he has not listened on h.f. since Nov. 1961. He has sent out 38 reports and to date received 12 confirmations, which include 2 ZLs. Chas has received the four ZL districts and now has the four confirmed. He is wondering if he is the first s.w.l. to have ZL districts confirmed on 50 Mc. Chas. missed out on the elusive VK8 and VK9, and would have liked to have collected them. Also heard enough VK8s to qualify for the Elizabeth Award and is now waiting on confirmation while all the logging is taking place on v.h.f. Quite a few s.w.l. are climbing up the DX ladder, but Chas. has no intention of leaving 50 Mc. for quite a while yet.

Eric Trebilcock's best QSLs from Feb. to March: BV1USE, JZ0BM, OH3WM (3.5 Mc.),

UA6MO, UB2DZ, HL8KT, XG6AJ, UP4KNP, and VQ3HS. Eric is very interested to know from which source did Bill John (Feb. "A.R.") receive a QSL card from ZL5AI. He has had no luck as yet with this one.

Peter L3089 sends his DX QSL cards received this month. They are from J412N, UG3U, UA6BQ, WA0JIM/M, KM, KATRV, F8BO, VR1P, CTIYE, DL1IN, KC8TM, ZS6AWO, DL1JZ, W6AGQL, WZKX, BV1USC, LA4VQ, 9M2PK, ZET1R, JAZKX, J431W, 5AA4P, also a few VKs. Peter was active in VK3 in January. He visited Geelong, Bendigo, Swan Hill, Mildura and other places for a few days. He has just installed a 14 Mc. dipole and a one mc. beam. A 6 mx beam has been up since Xmas.

Don L3088 has now reached the century in countries confirmed—a card from KH9EDY/Kuon. He is also above position. The following day GC2FMV came good with a card to start the second century. 83 countries have been heard in 53 zones in 1962 to date. Plenty of W. have been heard on 80 mx c.w. mid evening, mainly being worked by 2QL. 7 Mc. c.w. is well and truly active for DX, but most people are still DX coming through on 15 mx WAGQQL, WZKX. Peter's 10 mx was also very good at the same time. Don logged VP2SY for a new country. His QTH is P.O. Box 40, St. Vincent, West Indies.

Well chaps, that's all for this month, and will be looking for more news from you next month. 73, and best of DX—Robert, L3076.

S.W.L. DX LADDER FOR APRIL

| Countries | Zns. | S.s.b. | W |
|---------------|-------|--------|-------------|
| Conf. Hrd. | Conf. | Conf. | Hrd. Stat. |
| E. Trebilcock | 274 | 280 | 40 — 5 |
| D. Granley | 101 | 245 | 37 14 81 34 |
| P. Drew | 120 | 210 | 31 30 32 |
| M. Hilliard | 67 | 208 | 33 3 100 11 |
| M. Cox | 41 | 210 | 22 8 118 14 |
| C. Abernethy | 30 | 57 | 21 — 13 |
| P. Drew | 120 | 210 | 31 30 32 |
| P. Fields | 26 | 133 | — — 7 55 |
| N. Harrison | 26 | 48 | 20 — 23 |
| DX contacts | 4 | 1 | 6 30 8 |
| D. Jenkins | 10 | 141 | 7 6 10 7 |
| H. Burger | 6 | 185 | 3 1 19 — |
| N. Fisher | 3 | 36 | 3 — — |

Correspondence

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

"INCREASED AUDIO WITHOUT SPLATTER"

Editor "A.R." Dear Sir,
The article "Increased Audio Without Splatter" in the March issue of "Amateur Radio" has led me to think that a considerable number of others) dismayed and shocked.

Dis-mayed, Sir, that your Technical Committee should have accepted such an article for publication—although it was probably no more fallacious than the article on the effects of a high s.w.r. in August 1961 "Amateur Radio" . . .

My issue of "Amateur Radio" arrived only yesterday and this letter needs to be posted tomorrow to reach you in time for publication in the next issue. Obviously, then, I cannot produce a complete technical article in time. However, I consider it important to state before anyone has time to try the circuit published that—

(a) It is incorrect to say that "The addition of the extra load proposed in B during the negative voltage excursion, if of proper value, results in nearly perfect positive loading of the Class B stage, the former secondary during the negative as well as the positive voltage excursions."

(b) The article implies that the modulator looks into a source widely varying over the audio cycle. Such is not the case in any reasonable transmitter. It also infers that distortion and splatter result from this. This is incorrect.

(c) The result of connecting the extra diode and resistor suggested across the secondary of the transformer will result in much increased distortion, a broad signal, overloading of the modulator tube and the modulation transformer will be destroyed. Importantly, will not prevent splatter.

—L. Vale, VK3NO.

GENTLEMEN'S AGREEMENT

Editor "A.R." Dear Sir,
In the recent barrage of replies to my earlier letter pointing out the dictatorial attitude of F.E. in fostering this so called Gentlemen's Agreement warrants space for reply which you, Mr. Editor, being a true democrat will I hope let me have instead of curbing a controversial discussion with the blunt "correspondence is closed."

Some of the letters such as the satirical note from Jeff Vale, VK3NQ, who wants a statue of Samuel Morse erected outside my home, are more for the amusement of the editor than to ridicule sincerity which is never fostered in a British society.

Frank Hine's outburst has my complete support for I think it wrong that the correspondence is curbed without any justifiable reason. I have spent many years in journalism and worked with editors in many countries and rarely has a submission being discussed in the correspondence columns been stopped by The Editor; on the contrary it is encouraged. I hope this time the correspondence will be allowed to flow in the hope that right will prevail.

Now to get back to your correspondents to note, Joe Brennan, VK3XJ, claims the Gentlemen's Agreement rescues the world from this. This is quite wrong. In America it is by regulation. The plea by the A.R.R.L. recently published that the 14 Mc. band in Europe

the top 50 or 100 is a mad house but at least there's plenty of activity. I've just returned from a world tour and spent some time with my dear friends in the Arab world and they just operate where they wish with most satisfactory results. They are very busy—in sharp contrast to the Australian scene. Let's point that c.w. is international is really too silly for reply. Listen to any of these average DX contacts. Apart from swapping RST numbers and the plea for QSL, it is all over bar the shouting. It is the most impersonal means of communication I know.

"Tubby" Vale, too, says these market surveys are a cult. But here I can speak with a quite a good deal of authority as an executive in perhaps the most competitive industry in the world today. We rely on market surveys completely and without them we would all be out of business, especially when such huge capital investment is at stake. To say these figures are mine were to subvert me to saying I'm a Gentleman without Honour. They were taken independently by a very well qualified researcher with degrees in economics from three countries behind him.

It is quite obvious from what has already been published and what I hope will be published in the future that there is a genuine desire for the subject whether the desire for territory should be curbed or not to listen any day or night and note the complete absence of activity on the c.w. end. Those who are prolific in this regard are the minority who are on c.w. quite regularly but here it stops. It is this minority that strengthen their defence, that rise to put the claim of the c.w. world. Let us bear in mind, more, who, I hope, are balanced like myself and willing to let justice and democracy prevail.

Like the Swiss, only facts convince me.

—Roth Jones, VK3JBG.

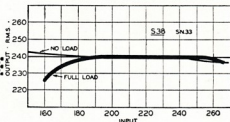
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FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

FEDERAL

NEW CALL SIGNS (OCTOBER)

VK— Australian Capital Territory
1RS—R. D. Stephenson, 3 Carnegie Cres, Narrabundah.

New South Wales
21T—P. H. Long, R.A.A.F. Richmond.
2ASD—T. A. Dineen, 23 Glasher Pde, Cronulla.
2ZEH—D. G. Hosking, No. 56 (T) Wing, R.A.A.F., Richmond.
2ZLC—L. M. Carlton, 33 Edgar St, Auburn.
2ZRH—R. A. Hord, 106 Stapleton St, Wentworthville.
2ZRM—R. B. Mayall, 41 Crown St, Fairfield.
2ZSM—C. M. Smith, 5 Perth Ave, Lindfield.
2ZWG—G. O. Wilson, 35 Virtue St, Condell Park.

Victoria
3RA—B. W. Poulter, Lot 21 Astley St, Montmorency.
3WK—W. J. Bell, Staywood Park, Wangoom.
3ACI—R. K. Hobbs, 50 Adeney St, Kew.
3AU—J. R. Upton, 24 Delacy St, Maldstone.
3ASY—O. W. Guy, 22 Williams Rd, Shepparton.
3AWY—L. T. White, Downey St, Alexandria.
3AYE—G. M. Nicholls, 14 Somerset Rd, Glen Iris.
3ZIO—B. L. Hearn, 6 McBain St, Altona.
3ZLL—K. R. Halse, 18 White St, Glen Iris.
3ZMS—A. Little, 10 Albert Rd, South Melbourne.
3ZMQ—G. V. Comer, 11 Peace St, Highett.
3ZND—N. G. Danvers, 19 Williams Rd, Laverton.

Queensland
4EZ—R. D. Siver, 38 St. Kedron.
4JM—J. McGrath, Elliott St, Elliott Heads.
4OS—Oakleigh Boy Scouts Radio Club, Station: High St, Dorrington; Postal: 15 Noeline St, Dorrington.
4RO—R. V. Ramon, Station: Canberra St, Lucia.
4ZDH—D. R. Hamm, 37 Ironside St, St. Ayrs.
4ZEF—Evelyn F. Bahr, Station: 177 Bowen Rd, Townsville; Postal: 187 Bowen Rd, Townsville.
4ZKR—K. L. Ross, 5 Thirteenth Ave, Kedron.
4ZRR—R. R. Robinson, 22 Hughes St, Hermit Park, Townsville.
4ZWL—W. H. Lake, Station: Prior St, Macchans Beach, via Cairns; Postal: P.O. Box 1152, Cairns.

South Australia
5RC—J. Reilly, Station: 85 Lefevre Tce, North Adelaide; Postal: C/o E.M.I. Electronics P/L, Box 176, P.O., Salisbury.
5ZAH—R. N. Blackmore, 2 Yarrall St, Klemzig.
5ZEC—A. B. Cleave, Commercial Rd, Strathalbyn.
5ZGK—J. Gore, 29 Hawkins Ave, Flinder Park.
5ZHB—A. G. Halley, 16 Dunstan Ave, Kensington.
5ZJB—J. R. Beaumont, 28 Ranelagh St, Glenowrie.
5ZJW—A. J. Whittam, 30 Simpson Ave, Dudley.
5ZMZ—C. D. Packham, 7 Pembroke St, Kensington Park.

Western Australia
6DC—W. A. Wilson, 25 Oudgen Way, Medina.

Tasmania
7BS—13th Hobart Boy Scouts Radio Club, 4 Strickland Ave, South Hobart.
7JF—J. E. Forster, 12 Denison Ave, Postana.

Ce territories
9LA—L. C. Allen, C/o D.C.A., Cocos Island.

The P.Z.K. (Polish Section of I.A.R.U.) is holding a Contest to celebrate the thousandth anniversary of the Polish State. Contest dates are: c.w. 2000, April 5 to 2000, April 6; 2000, April 14 to 2000, April 15. Bands 3.5 to 28 Mc. Rules, etc., from this Bureau.

The above body is also sponsoring an Award called "Millennium S.P. Award." SP contacts made between Jan. 1, 1962, and Dec. 31, 1966, are eligible. Non European Amateurs need 20 contacts with SP stations located in at least five SP call areas. A list of QSLs held covering above contacts and certified by Australian Awards Manager, together with five L.R.C. should be sent to Awards Manager P.Z.K., Box 320, Warsaw 10, Poland.

—Ray Jones, VK3RJ, was Mgr.

FEDERAL AWARDS

During February 1963 V.h.f. Awards were made as follows:

V.H.F.C.C.
No. 14—Barry Cleworth, VK3BQ (ex-VK5ZBZ).
No. 15—David Rankin, VK3QV (ex-VK3ZAJ).
No. 16—Max 1401, VK3AH, 50 Mc. 105.
No. 3—Bill Rusby, VK2ABR, 50 Mc. total 168.
W.A.S. 50 Mc.
No. 30—Quentin Porter, VK3IM, plus JA, VR2, ZL and Papua.
No. 31—John Barker, VK3ZZ/T (ex-VK5ZCJ), plus JA, ZL.
No. 32—Roy Taylor, ZL, VK3AU (ex-VK2ZTR), plus JA, KH6, and Papua.
—Alf Kissick, VK3KB, Manager.

NEW SOUTH WALES

GENERAL MEETING

The Feb. meeting of the N.S.W. Division was held at the Clubhouse, Gladesville, Sydney, on Friday, 23rd Feb., with an attendance of about 40 members. The President, Bill ZYB, opened the meeting at 8.30 p.m. and welcomed the visitors, John 4DD and Ted Mulholland. Apologies were received from Z2NM, 2ST and Alan Chato. New members admitted to the Division totalled seven, full members and 14 associate members.

Reference was made in correspondence to the Sefton Boys' High School Radio Club which is progressing with an initial membership of 12 boys.

The lecturer for the evening was Barry Z2AG, President of the V.h.f. Group of the N.S.W. Division, who spoke on the "Future of Amateur Radio." Tracing the history of Radio from the time of Hertz and Marconi, whose initial experiments were conducted on the very high frequencies, Barry pointed out the many phases of v.h.f. technology, its expansion over the years, and its appeal to the more youthful enthusiasts. The vote of thanks to the lecturer was moved by Bob Z4WA.

The time remaining was taken up with the discussion of agenda items which will be discussed at the Federal Convention to be held at Perth at Easter. The meeting closed at 10.50 p.m.

HUNTER BRANCH

Following close upon the Dural Convention, the Gosford Field Day attracted quite a number of some members. The double postponement apparently resulted in a greater interest and all to whom I spoke were loud in their praise of the Gosford boys in selecting such a perfect spot for the annual get-together. It seems that this may become the regular venue and if so, should result in an even greater roll up than this year's record. Two of the local 144 men were successful in the second fox hunt, those clever types being Bill ZXT who came in first and President Stuart ZAYF who was 2nd. Surely the greatest news for the month, other than the Field Day, is the opening of the new television station on hills beyond Roseville. Shannon, our mutual friend, has at last found a use for his thirty bob t.v. set and now will not get sooked pieces of string, secured to the antenna terminals with 300 ohm ribbon, suffices to give him a strong signal with which not even his well loved Geosmo will interfere. Now that a good signal

can be obtained in most of the zone, the problems of many members will be partially solved, especially those in very difficult areas. At least two Harries are particularly jubilant about all this. In G land the authorities were persuaded to allow the R.S.G.B. to use the f.m. mast in Kent and v.h.f. beacon on the 12 m. band. I wonder who reception NBN would give the Institute? Apparently the service area of the new tx is quite extensive.

National Field Day activity in the zone was slight, that is on 40 and 80 m. and at one stage all that could be heard was the ring of an axe in the hills behind Terlaba as the most scientific wire was changed from one tree to another. Yes, it rained about 100 points during the process.

Jim ZAHF from Coromela has now a beam for 40 m. directed to the land of Kilowatts and is having a great deal of success with it. During the A.R.R.L. DX Contest he was, as reported, top scorer for VK.

Returning to the Field Day, Ron ZASJ was on 40 for a time and in good voice, too, as well as Charlie. It was a delight to hear these chaps coming through so well. It is to be hoped the t.v. problem is partly solved for you both. Of course the regular customers were there including Bob and Bill. I suppose you heard that shocking display last Sunday when the failure to switch on the final was blamed on a burnt out fuse! Another most unkind story.

Chris ZPZ treated the branch to an excellent lecture on the shape of the regular customers, illustrating his discourse with a great deal of fine equipment and some well chosen colored slides. In addition, Peter ZAYF showed slides of the I.R.U. visit to the Parkes Radio Telescope, concluding one of the most informative meetings for some time. A total of nineteen members, nine associates and five visitors were present including five of the Superior Radio staff to carry the gear! Come again soon, Chris.

By the time this appears the new officers for 1963 will have been chosen and if you missed

W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

PHONE

| Cer. Cnt. | No. ries | Call | Cer. Cnt. | No. ries |
|-----------|----------|--------|-----------|----------|
| VK3B | 45 268 | VK3KW | 4 | 26 |
| VK3RU | 45 268 | VK3ATN | 28 | 264 |
| VK6MK | 43 252 | VK4HR | 12 | 192 |
| VK3IAHO | 81 238 | VK4WF | 23 | 184 |
| VK3FJ | 21 228 | VK3BZ | 5 | 176 |
| VK3SWL | 14 211 | VK4HW | 16 | 173 |

New Member:

VK3RJ — 57 110

C.W.

| Cer. Cnt. | No. ries | Call | Cer. Cnt. | No. ries |
|-----------|----------|-------|-----------|----------|
| VK3KB | 10 300 | VK4HR | 8 | 218 |
| VK3CX | 26 288 | VK6RU | 18 | 218 |
| VK4FJ | 29 268 | VK3CX | 46 | 213 |
| VK3CNC | 19 228 | VK3CX | 5 | 176 |
| VK3FH | 15 226 | VK3VL | 39 | 211 |
| VK3JBZ | 6 222 | VK3KX | 41 | 204 |

Amendments:

| | | | | |
|-------|--------|--------|----|-----|
| VK5RX | 23 203 | VK3ARX | 63 | 174 |
| VK3RJ | 42 175 | VK3JF | 70 | 125 |

OPEN

| Cer. Cnt. | No. ries | Call | Cer. Cnt. | No. ries |
|-----------|----------|--------|-----------|----------|
| VK2ACX | 6 299 | VK3HG | 7 | 243 |
| VK3B | 8 274 | VK3AHO | 3 | 231 |
| VK4FJ | 32 274 | VK4HR | 3 | 231 |
| VK3CNC | 77 260 | VK3BZ | 4 | 231 |
| VK3CNC | 74 260 | VK3BZ | 4 | 231 |
| VK2AGH | 83 245 | VK3VL | 45 | 225 |

Amendments:

| | | | | |
|-------|--------|--------|----|-----|
| VK4WF | 40 177 | VK2APK | 82 | 158 |
|-------|--------|--------|----|-----|

FEDERAL QSL BUREAU

A change in the A.R.R.L. QSL Bureau set-up is: VES—M. Russ Allen, VE2BC, Aeradio Station, S.N.A.G., Yukon Territory, Canada.
WPEAK, Leroy Waite, 39 Hannum St., Ballston Spa, N.Y., U.S.A. advises that he handles cards for all W, K, VE a.s.w.'s. He has performed this service since 1957.

The Burma Amateur Radio Society has been changed to the Burma Amateur Radio Transmitting Society. The President is XZST and the Secretary XZSY with address as Box 800, Rangoon, Burma.

Cards handled by the Federal Bureau for the W.I.A., year ending Feb. '62, totalled 44,538—the highest since 1955.

the meeting, it's your own fault, but don't miss the next meeting whatever else you do. It happens to be on Lucky Friday, 15th, and as well as a "Do It Yourself" night. No doubt some interesting and perhaps even hilarious demonstrations will be on view as remember 8 p.m. at the University College, Tighes Hill. And Bill 2XT still welcomes visitors on the third Wednesday of each month at his hostelry. April 18 that is, so see you there, 73, 2AXX.

BLUE MOUNTAINS SECTION

The Feb. meeting, held as usual at Lawson, was once more well attended with 17 members present. Several business items provided plenty of discussion. There being no lecture, the meeting closed for supper and the usual rag chew. Some films have been made available to the Club so it was put forward that next meeting be a film evening, the only hitch being a projector which according to my spies has been organised.

Gossip for this month is shorter than ever. Club Band activity seems poor. There is everybody on 6 mx? Six has been good, where I hear that Bob Pinning has received his ticket from the last exam. Congrats, Bob, hope we hear a lot of you. Walker has been not received any word as yet, but is still going ahead with his building program. Jack Ferris is geared up again if he can find a tower and words with Al 2YFB on 6 mx and I understand he can only go on one band due to power supplies. Wal 2MZ has been carrying out some more checks on 1296 Mc.

Don 2ART and yours truly journeyed to 2WI the other day to help with the broadcast. The broadcast went OK, but the car gave plenty of trouble. After extensive repairs, we were able to return on four cylinders instead of three. My spies tell me that Sid 2AYR has been on the bands with his small rig with good results. Jack 2AFJ is now busy getting a 3BZ tx on the air. Place the 3BZ in the garage as a standby. Lorry 2ZJC is having antenna trouble and is using a vertical as a temporary one. 73, 2ADA.

CENTRAL COAST ZONE

Major 2RU was re-elected President at the Feb. meeting of the Gosford Radio Club. Lindsay 2ON is Vice-President, Reg 1AI continues in office as Secretary, and Ernie 2EH is now Public Relations Officer. Does any other Club have a P.R.O.? The 5th Annual Field Day at the new venue, Gosford Racecourse, was more than well attended, about 111 Hams checking in. The luncheon was prepared and served by the XYLs of 2RU, 2AIA, 2OJA, 2MV, 2AVJ and 2YA. Bob 2EN and Perce 2DA officiated at the registration desk. The spacious setting with trim green lawns and shady trees for parking meant much to the success of the day. Twenty-two cars set off in the 144 Mc. hunts. The morning search led to Somersby, eight miles up in the mountains, where the stand the winners arrived on the scene at 50 m.p.h. He was Dave 2AWZ. The afternoon hide-out was at Terrigal on top of a small hill, where because of the reflections from a hilly terrain, only four cars finished. This was won by Bill 2XT.

A scenic trip to Ettalong by launch from 2 to 4 p.m. was greatly enjoyed by the XYLs and harmonies.

The 7 Mc. scramble was won by Jim 2PM with 20 contacts in 30 minutes. The lucky dip was well patronised and a supply of Gosford oranges was popular with the children. A small amount of disposals gear was handled during the day. Johnny 2GA and Geoff 2MVD helped the visitors to liquid refreshments below the main stand.

The programme concluded at 5 p.m. with presentation of prizes. Apologies are tendered to those who were inconvenienced by the double postponement but there is no doubt the weather on 26th Feb. was ideal for a field day.

Alec 2AAK has left for parts unknown, taking no mobile gear. Len 2AMU will be asked for a lecture on "Dams I have seen" with coloured slides of Warragamba and others. Congrats are in order for Ken 2AFH on the safe arrival of daughter number five. New things are more settled the 144 mc. project will get more attention. Frank 2AFJ has his 2 mc converter working and the tx is not far behind. Ernie 2EH now appears on the 3.55 mc. Central Coast net every Monday at 2300 hrs. Stewart 2AYF had a close contact QSO with 2ZJ on 144 while racing through Gosford the other day at 8 a.m. Geoff 2AIL is heard on 80 at times when not appearing on the stage or selling a certain type of tractor.

Your scribe, 2ON, finds DX much easier to work with the 3.55 mc. Although giving a variable gain of 0 to 2 S points over a dipole, it really sparkles on the rx. Line-hash is still the bane of the quest and the effect is about 6 S points of improvement in signal-to-noise ratio.

BOORAGUL HIGH SCHOOL RADIO CLUB

Time table alterations have given us a slow start this year, but already the numbers are up to 25. The 144 Mc. and 20 Mc. boys, the night sessions are now being taped and relayed at lunch time so as to give more time for theory and practice in the afternoons. The long awaited higher power tx now looks to be almost ready and should be on in April. Those who are waiting on QSLs should have them by now. The club has been notified, a call at 0600 G.M.T. Tuesday or Friday, should bring results.

Our thanks to those who have helped with gear, especially Rex and Rudy. The demonstration cavity magnetron is available for loan to any school club. Unfortunately it is not a working model, but it is a current British type and quite small enough to post. Mr. Colhoun, of the A.B.C., has kindly arranged a visit to the studios and tx at ANA and it is hoped that we may also see NBN soon—73, 2ATZ.

CHRISTIAN BROTHERS' COLLEGE BOYS' RADIO CLUB

This year looks like being very good for club activity. The boys are highly interested and we do have enough time available to make regular appearances on 20 and 40 mc. At the time of writing the boys are new to the hobby and running a 150w. a.s.b. rig is somewhat confusing. On 20 mc very interesting talks have been given to a higher grade by Amateurs in different parts of the Pacific. It's a fine way to learn some geography. We will always be pleased to hear from any hamster in these States. Countries you can sell a little about their own district; trouble is our working hours are confined to 2900-6500 G.M.T.—that's during working hours in Eastern Australia. The signal needs to be 59, too, for all the class to hear.

The boys' best effort so far on 20 mc has been four contacts in a hour, one day when Africa unexpectedly came in at 6030z on 20 mc. Chief "ops" for the year look like being Paul, Terry and Gary. Paul, a new arrival, has a living jet engine on roof from the Eastern States.

We found the guy wires on our beam were ruining the 20 mc signal. The addition of a dozen insulators to the eight guy wires worked wonders. The people T.M. and Joe found there—a field strength meter held near a guy wire tells its own story.

There are visits to the Gosford Field Day recently, but only the local boys were able to come. They saw some wonderful gear and worked the world's nearest DX on 2ACQ's mobile; thanks Frank. 73, 2ATZ.

VICTORIA

Mr. John Hill, of Electronic Industries Ltd., was the lecturer at the March meeting held as usual in the Radio Theatre of the Royal Melbourne Institute of Technology. Mr. Hill started his talk with the remark that "the Amateur licence just before the war, then without further ado got busy with the mathematics of the transmission line, the "transmission equation". Then he showed how the equation could be used to calculate the power and other requirements needed to meet a given performance specification. Mr. Hill then went on to explain the mechanism of azimuth stabilisation, true motion compensation and other mysteries, and concluded with the projection of a series of slides showing typical p.p.i. displays and commercial radar equipment. The lecturer devoted considerable time to the answering of the many questions asked. The appreciation of the members for such a fine lecture was expressed by Ken 3AFJ in moving a vote of thanks.

The President, David 8ADW, read out the names of new members. The Federal Councillor read a letter from F.E. to the effect that rumors of a compulsory change of a.m. to s.b.f. for Amateurs were unfounded. The true story is that this recommendation (and that is all that it is!) applies to commercial stations only.

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A lively discussion about the possible reasons for poor attendance at general meetings then took place, with the result that a number of constructive ideas were brought forth. Council members were asked to consider the idea.

The next meeting will be the Annual General Meeting and will be held in the Radio Theatre, R.M.I.T. on Wednesday, 4th April. See you there? 73, 3AEI.

WESTERN ZONE

Sorry chaps that zone notes seem to have gone astray some time recently. Rather unfortunate that we have already lost one of our members, and will be losing another shortly. Keith ZQG has left Murrumbidgee and is residing in New South Wales. Keith all the very best in his new location. He is still working as a radio technician at one of the big stations.

Gordon 3GW, of Rainbow, is also leaving for the "big smoke". We will certainly miss Gordon very much as he has been one of the most active and hard working members. Thanks a lot Gordon for taking the W.I.A. broadcasts over the past years and we also wish yourself an good wife and the best of future happiness.

News has been a little on the scarce side over the last few weeks. I am sure that there will be more activity during the winter months when conditions are better for Hamming. 3AKW

MOORABBIN & DISTRICT RADIO CLUB

Once again the National Field Day has come and gone, and although our activities were curtailed to some extent by the lateness of notification of Rule 6A, we did very well indeed and results will be published in due course.

VK3APC/P was situated at Wonga Park near Croydun, and occupied three sites on high spots within the area laid down. At site one, 144 and 7 Mc. were operating; at site two, 50 and 14 Mc. and at site three, 144 and 3.5 Mc. Operating the station on the different frequencies it was found that 144 Mc. was normal while 14 Mc. was a little low. At 11.30 a.m. noon, VK4s, VK3s, VKs were all contacted, and VK3ZAX/M was worked while using only 8w. input and travelling at 60 m.p.h. 21 Mc. came good also on Sunday afternoon, while 14 Mc. was just ordinary. 7 Mc. was very depressed for a start, but later proved the old stand-by. The high impedance on this band, the number of ZLs worked on c.w. A Contest in ZL land coincided with our N.P.D., but 3.5 Mc. was very disappointing here, as four out of five stations who contacted the club's network that the particular spot where we were operating was no good for transmission on 3 Mc.

The following members were present: Peter 3APD, Harold 3AFQ, Ken 3ACS, Alf 3LC, Keith 3ABD, Bob 3BZ, Kevin 3AID, 3JZ, Bill 3JE, George 3NC, Graham 3ZMQ, and Graeme 3ZIF. These members were assisted by junior members John Chandler, Hal Shirley, John Antonella and Lindsay Strenell.

In all, we had a very enjoyable week-end and as usual are looking forward already to the Field Day next year, and to the National Field Day or memorial to the late VK2JU.

Other than the above our activities are getting into gear again for 1962. The first 80 mc. band was run in March, and so far events are again current. Visits to Lyndhurst Transmitting Centre and to Essendon Air Control were very interesting, and the latter is proving more popular every week. 73, 3LC.

QUEENSLAND

GENERAL NEWS

At last, that once-a-year week-end is almost here again. We hope there's a circle on your calendar around the week-end of April 13, 14 and 15, when the National Field Day will be held. Alexandra Headland between Maroochydore and Mooloolaba on the near North Coast. The site at Alexandra Park is just 80 miles from

Brisbane and 63 miles from Gympie. Both you and your family will be welcome from 4 p.m. Friday to 4 p.m. Sunday, and there'll be a great chance to enjoy the famous sunshine and the beautiful scenery of the Sunshine Coast. The Convention as attractive as possible for family groups, with charges on a pro rata basis (half price for children).

Organizer Vince 4VJ has included these attractions: competitions with prizes, club participation events, a barbecue on Saturday night, continuous operation of the W.I.A. at the Wide Bay and Burnett hook-up from the site, displays of the most modern Ham equipment available, and an auction of secondhand gear. The week-end promises to be the most successful Convention yet, so don't be in the ranks of those who are sorry later they didn't attend, and let us all enjoy a happy sun face at the Alexandra Headland Convention.

Latest news on the Jamboree of the Air in Queensland is that Hqtrs. Commissioner A.A. "Skip" Jackson has been appointed organiser on the Scout side of things. "Skip" has had an interest in Amateur Radio for many years, being a foundation member of the W.I.A. in Queensland and helping to build the first 4WI t.t. Rival interest is being shown by Rockhampton Max 4AD (Alderman) and the M.L.A. and Redcliffe Mayor (Alderman Jim Houghton, M.L.A.) and press v.t. publicity seems certain.

Good deed must be done by the v.h.f. boys over the Easter week-end. Arrangements are going on for their taking part in the communications section of the Scout Jamboree at Queensland Senior Scout venture in the Toowoomba-Lockyer area. If the gear doesn't spark on the Convention, then there'll be four days to the full.

The slow Morse sessions being offered by Alan 4SS are being much appreciated by Amateurs and the public. Sessions are being held now on 3530 kc. between 9700 and 9730 and 1900 and 1930 on Sundays, to 1900 and 1930 on Wednesday nights. The Morse is offered in two sections, the first five to eight w.n.m. with some words repeated, and the second 10 to 12 w.p.m. The second section will be speeded up as the draw is made.

Several members and associates on the mend again after being on the sick list. Stan 4SA after a couple of weeks' hospitalisation, has leg trouble and had to be taken to Greenslopes Repat. Hospital by ambulance, but is back on the air again. The keen carver, Steve the big cane, has been in hospital for an op. late in Feb. but should be home well by now. The frilly apron of Howard 4WO when he was in hospital, was a sight. He was admitted to hospital for an operation. Enthusiast Neil Drane is showing interest in Radio again after recovering from bad head injuries sustained in a road accident.

Like to keep the smile on the face of the Inward QSL man, Jack 4JF, because of the success of his keying. The following can do their bit this time: 4XR, 4NH, 4QO, 4RP, 4RR, 4MD, 4WG, 4ZBZ, 4ZHG, 4ZBF, 4ZC, 4ZD, 4ZBT, 4ZC, 4ZMG, 4ZAX, 4ZAA, 4ZDJ, 4ZAPF, 4ZAW, 4ZB, 4ZBR, 4ZDA and 4ZDA.

Watch (we hope) for a sudden swelling in the numbers of the club in the Sunshine State during the year. What with such large classes as 20 at the Northern Command Signals Amateur Radio Club, and the 20 at Bundaberg, the bands will be rocking with new call signs. The Bundaberg effort is first class as the intense interest there has already produced almost a score of new associates to the W.I.A.

The interest almost puts to shame the efforts of the numbers of the club in the Sunshine State on 7105 kc. during the 4WI hook-up after the news. Give the station men Stan 4SA and Alf 4OL some reward for their time and effort in arranging the news and the shift coming in, even if only to say you are listening. Surely from all of Brisbane in particular more than a couple of call signs are due to shift coming in.

We in VK4 land offer our sympathy to the Pansy patient in VK3 land who must by this be struck down with the mysterious illness of bronchitis. It is a pity that the patient should be without untangling miles of red tape to find the Receiver of Public Moneys. I say the red tape is the red tape to shift coming in the Sunshine State with its numerous Post Offices for Amateurs, but, shame, I look out to see the red tape in the post. Must be a passing light shower. 73, Don.

WIDE BAY AND BURNETT BRANCH

The Feb. monthly meeting at the Central School, Gympie, was presided over by Eric 4AD, with members from Maryborough, Nambour and Gympie. The attendance was 10. The boys were regretted but the distance is a bit far. Main items at the meeting was a ballot for the disposal gear, and one member went home with the mudders of his car, and one on the wheels (didn't you, Ken). After a

discussion on projects for the year, John Lind gave a talk illustrated with slides on transmission lines from power house to public which was most appreciated by all.

John Lind also gave a talk on the W.I.A. now going through the classes at Gympie, and will soon be adding QRM to our bands (not a.c. 1 hope). A comparative stranger to our ranks was Col 4VH with his 144 Mc. and new silicon-pnp harmonics. John 4PU looks like being up with the top scorers in the Ross Hull Contest, while Mac 4VH has been waiting for the W.I.A. after a 12-year wait for that VK8. Congrats, go to Mac also for working into VK3 and VK3 on 144 Mc. Harry 4ZBZ has had a while of the time on 50 and 144 Mc. and is now playing 144 Mc. gear. 73, 4ZHG.

SOUTH COAST

The local press says that old timer J. Thompson 4XP will soon be back on the air from up Natural Arch way as power mains are being extended to his locality. Welcome back, OM.

Not much pleasure from the National Field Day because of extremely poor conditions. Few contacts, and the Southbay was killed by a storm Sunday.

With the assistance of Bob, president, members of the Southbay Radio Club and stockmaster H. Blake and a number of Scouts, the vertical antenna for Del 4RJ was erected. By now, an electrical supply to the club by Frank 4FN, a very old and esteemed friend of Del, should be installed. Del and his XYL extend their thanks and appreciation to the very willing workers. 73, 4WS.

TOWNSVILLE AND BURDEKIN DISTRICT

At the last meeting of the Townsville Amateur Radio Club the item of the night was the ballot to see if the members wanted to affiliate with the W.I.A. The result was a unanimous vote to affiliate with the W.I.A. As the newly formed club in Ayr is affiliated with the Institute also, it points out the fact that all Amateurs should belong to the W.I.A. and not just the few who are using the money power to want to take great strips of our frequencies from us.

Frank Sturges gave a very interesting lecture on the equipment used at 4TO, and to finish off an interesting evening, Jim Daly gave a lecture dealing with structural strains in buildings, which occur when aerial towers are constructed.

John 4ID has departed for Sydney on a spot on the 4WD. He is a very good friend of him. Bob 4MF has at long last decided what the best bet is and is anxiously awaiting delivery of a Hallcrafters rc. Bert 4LB has also moved to Sydney. He is a very good friend of us. Does it run on batteries, Bert, or do you just keep it in a dry cell. Looks like Alan 4PS is getting prepared for lots of DX or possibly to help get the R.D. trophy for VK4 this year, as he has thoroughly overhauled his beam and tropic-proofed his motor.

One of our P.M.G. boys at Ingham has entered the ranks of Ham Radio and has a Z call. His name? Bill Pickering.

The Burdekin Radio Club had its monthly meeting a few nights ago and after much discussion a constitution was adopted and I noticed certain suggestions were made. The members of our Secretariat, John McKenzie, from members who want to join the W.I.A.

Joe 4OJ is still doing well for get his 128 going on a.c. Norm 4ND still prolonging the agony of the 144 Mc. band. He was within stone's throw of him, by not indicating when he will be on the air and what freq. he will be on. The 144 Mc. band is a very 4BX in his capacity as R.L. and am pleased to state that all gear inspected passed the test. A letter yesterday from him is a ham.

Flasht Jut got going on the phone from our regular scribe 4RW. He has arrived back home from his overseas trip and was full of news. He has a new car, a new sash, rig has brought back with him. Also has bundles of stacks up to 12 megs. Another Ham has moved into the area. The new Ham is a very good friend taken out a call sign yet and is living in a flat at the moment. When you get around to finding a house Don, there isn't any in Ayr, but I believe that house is a very nice rig has in Home Hill, on the other side of the river.

Well apart from doing my shift at the Best Breakers Contest in Queensland, I have decided to say it is the best in Australia, even though it's, working some DX, keeping young (three of 'em), and keeping my wife convinced that I am a Ham. It is essential to have it in the lounge, I haven't anything to report on my own doing. But if you hear any vicious remarks about the Ham, I will be down, with no assistance from me, I can assure you that it is a terminal illness, in meek . . . Rex . . . oh, back, a fib, I mean, it is the end of the Ham. I am a little weary, I fill the mower, 73, Claud 4UX.

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Amateur Radio, April, 1962

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